

Heindl

=> d his

(FILE 'HOME' ENTERED AT 19:55:17 ON 22 JUN 2004)

FILE 'CAPLUS' ENTERED AT 19:55:29 ON 22 JUN 2004

L1 32 S HEINDL D?/AU
L2 141 S SANGER G?/AU
L3 12 S MAERZ H?/AU
L4 304 S VON DER ELTZ?/AU
L5 483 S L1-4
L6 28 S L5 AND NUCLEIC
L7 13 S L6 AND LABEL?
L8 2 S L7 AND REAGENT/TI
SELECT RN L8 1

FILE 'REGISTRY' ENTERED AT 20:01:42 ON 22 JUN 2004

L9 19 S E1-19

FILE 'CAPLUS' ENTERED AT 20:04:22 ON 22 JUN 2004

L10 2 S L8 AND L9

FILE 'STNGUIDE' ENTERED AT 20:06:27 ON 22 JUN 2004

FILE 'CAPLUS' ENTERED AT 20:10:35 ON 22 JUN 2004

L11 FILE 'REGISTRY' ENTERED AT 20:10:42 ON 22 JUN 2004
3 S L9 AND NR>6

FILE 'HCAPLUS' ENTERED AT 20:12:27 ON 22 JUN 2004

L12 1 S L11

FILE 'STNGUIDE' ENTERED AT 20:14:07 ON 22 JUN 2004

FILE 'LREGISTRY' ENTERED AT 20:18:58 ON 22 JUN 2004

L13 STR

FILE 'REGISTRY' ENTERED AT 20:23:33 ON 22 JUN 2004

L14 7 S L13
L15 279378 S (N AND O AND H AND C)/ELS AND 4/ELC.SUB NOT (RSD/FA OR PMS/CI
L16 2 S L15 AND L9
L17 7 S L13 SSS SAM SUB=L15
L18 STR L13
L19 6 S L18
L20 5 S L18 SSS SAM SUB=L15
L21 1599 S L18 SSS FUL SUB=L15
SAVE L21 HEI411P/A
SAVE L9 HEI411I/A
L22 1 S L21 AND L9
L23 5031525 S (N AND O AND H AND C)/ELS AND 4/ELC.SUB AND RSD/FA NOT PMS/CI
L24 5 S L18 SSS SAM SUB=L23
L25 12003 S 7938.12.8/RID
L26 1 S L18 SSS SAM SUB=L25
L27 16 S L18 SSS FUL SUB=L25
SAVE L27 HEI411P2/A
L28 0 S L27 AND L9

FILE 'CAPLUS' ENTERED AT 20:33:00 ON 22 JUN 2004

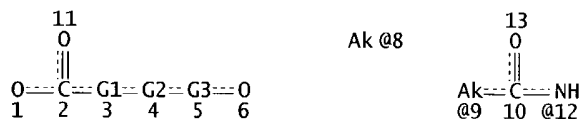
L29 7 S L27
L30 3185 S TRIFUNCTIONAL?
L31 55 S L30 AND FLUORESC?
L32 0 S L31 AND LABEL?
L33 9 S L31 AND LABEL?
L34 6 S L33 AND PY<2002
L35 1119 S L16
L36 23 S L35 AND FLUORESC?
L37 10 S L36 AND (DNA OR NUCLEIC OR LABEL?)
L38 0 S L35 AND L30

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L39 5744 S SOLID PHASE SYNTHESIS/CT
L40 6 S L39 AND L35
L41 5789 S L21
L42 13 S L41 AND L39
L43 1 S L42 AND FLUORE?
L44 1 S L42 AND LABEL?
L45 70 S L41(L)FLUOR?
L46 6 S L45 AND LABEL?

=> d que 129

L18 STR



VAR G1=8/9-2 12-4
VAR G2=N/CH
REP G3=(1-20) CH2
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 8
CONNECT IS E2 RC AT 9
DEFAULT MLEVEL IS ATOM
GGCAT IS LIN SAT AT 8
GGCAT IS LIN SAT AT 9
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

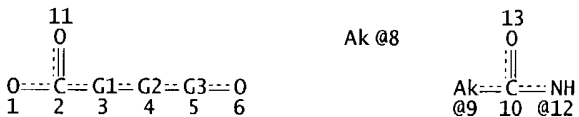
L25 12003 SEA FILE=REGISTRY ABB=ON PLU=ON 7938.12.8/RID
L27 16 SEA FILE=REGISTRY SUB=L25 SSS FUL L18
L29 7 SEA FILE=CAPLUS ABB=ON PLU=ON L27

=> d que 135

L9 19 SEA FILE=REGISTRY ABB=ON PLU=ON (108-55-4/BI OR 150-25-4/BI
OR 154928-39-9/BI OR 154928-40-2/BI OR 154928-41-3/BI OR
2321-07-5/BI OR 321858-92-8/BI OR 3282-30-2/BI OR 3318-08-9/BI
OR 403656-56-4/BI OR 403656-57-5/BI OR 403656-58-6/BI OR
403656-59-7/BI OR 403656-60-0/BI OR 403656-61-1/BI OR 403656-62
-2/BI OR 40615-36-9/BI OR 534-03-2/BI OR 82911-69-1/BI)
L15 279378 SEA FILE=REGISTRY ABB=ON PLU=ON (N AND O AND H AND C)/ELS
AND 4/ELC.SUB NOT (RSD/FA OR PMS/CI)
L16 2 SEA FILE=REGISTRY ABB=ON PLU=ON L15 AND L9
L35 1119 SEA FILE=CAPLUS ABB=ON PLU=ON L16

=> d que 141

L15 279378 SEA FILE=REGISTRY ABB=ON PLU=ON (N AND O AND H AND C)/ELS
AND 4/ELC.SUB NOT (RSD/FA OR PMS/CI)
L18 STR



VAR G1=8/9-2 12-4
VAR G2=N/CH
REP G3=(1-20) CH2
NODE ATTRIBUTES:

Heindl

CONNECT IS E2 RC AT 8
CONNECT IS E2 RC AT 9
DEFAULT MLEVEL IS ATOM
GGCAT IS LIN SAT AT 8
GGCAT IS LIN SAT AT 9
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
L21 1599 SEA FILE=REGISTRY SUB=L15 SSS FUL L18
L41 5789 SEA FILE=CAPLUS ABB=ON PLU=ON L21

Heindl

=> d que

L30 3185 SEA FILE=CAPLUS ABB=ON PLU=ON TRIFUNCTIONAL?
L31 55 SEA FILE=CAPLUS ABB=ON PLU=ON L30 AND FLUORESC?
L33 9 SEA FILE=CAPLUS ABB=ON PLU=ON L31 AND LABEL?
L34 6 SEA FILE=CAPLUS ABB=ON PLU=ON L33 AND PY<2002

=> d ibib abs ind 1-6

L34 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:228825 CAPLUS
DOCUMENT NUMBER: 124:263141
TITLE: Rotational Dynamics of Naphthalene-**Labeled**
Cross-link Junctions in Poly(dimethylsiloxane)
Elastomers
AUTHOR(S): Leezenberg, Pieter B.; Marcus, A. H.; Frank, Curtis
W.; Fayer, M. D.
CORPORATE SOURCE: Department of Materials Science and Engineering,
Stanford University, Stanford, CA, 94305-5025, USA
SOURCE: Journal of Physical Chemistry (1996),
100(18), 7646-55
CODEN: JPCHAX; ISSN: 0022-3654
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of end-linked poly(dimethylsiloxane) (PDMS) networks were prepd. with different crosslink functionalities and mol. wts. This was achieved by simultaneous end-linking and self-condensation of a **trifunctional** silane crosslink precursor. These networks had a nonpolar naphthalene chromophore covalently attached to a fraction of the crosslink junctions. The time-dependent reorientation of the naphthalene is probed, inferring reorientation of the crosslinks, by detg. the time-dependence of the **fluorescence** depolarization in the picosecond time domain. A 2-step relaxation model describes the orientational dynamics. Fast, partial depolarization in a restricted geometry is superimposed on a slower relaxation that completely depolarizes the **fluorescence**. The 2 rotational diffusion consts. are detd. at temps. varying from 235 to 298 K, while network parameters, such as crosslink d., mol. wt., and macroscopic strain, are varied. These diffusion consts. have an Arrhenius activation energy of 11.4 +/- 0.8 kJ/mol. The fast relaxation is driven by motions of a few chain segments; this process is dominated by the d. of the network polymer around the **labeled** crosslinks. The slower, complete reorientation is driven by cooperative motions of a larger no. of chain segments connected to the crosslink that are insensitive to steric constraints in the immediate vicinity of the crosslinks.

CC 39-12 (Synthetic Elastomers and Natural Rubber)

ST rotational dynamics crosslink junction silicone rubber

IT Crosslinking

Diffusion

(rotational dynamics of naphthalene-**labeled** cross-link junctions in poly(dimethylsiloxane) elastomers)

IT Rubber, silicone, properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(rotational dynamics of naphthalene-**labeled** cross-link junctions in poly(dimethylsiloxane) elastomers)

IT Chains, chemical

(segmental motion; rotational dynamics of naphthalene-**labeled** cross-link junctions in poly(dimethylsiloxane) elastomers)

L34 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:390439 CAPLUS
DOCUMENT NUMBER: 122:315069
TITLE: A facile method to prepare C-terminal
fluorescently labeled peptides by an
Fmoc strategy

Heindl

AUTHOR(S): Pennington, Michael W.; Baur, Pius
CORPORATE SOURCE: Bachem Bioscience, King of Prussia, PA, 19406, USA
SOURCE: Letters in Peptide Science (1994), 1(3),
143-8
CODEN: LPSCEM; ISSN: 0929-5666
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Spectrophotometric peptide probes, derivatized at the C-terminus, are conveniently prep'd. by means of an 9-fluorenylmethoxycarbonyl (Fmoc) solid-phase strategy. Using a resin such as Sasrin, the fully protected peptide can be cleaved from the resin with hydrazine, yielding the protected peptide-hydrazide which is subsequently oxidized to the azide. An amino-contg. chromophore or fluorophore such as 5-[(2'-aminoethyl)amino]naphthalenesulfonic acid (EDANS) can be coupled directly to this activated carboxyl group. This allows for specific placement of the fluorophore at the C-terminal carboxyl group in the presence of **trifunctional** amino acids.
CC 34-3 (Amino Acids, Peptides, and Proteins)
ST C terminal **fluorescent** peptide
IT Peptides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(C-terminal **fluorescent labeled**; prepn. of
C-terminal **fluorescently labeled** peptides)
IT 6268-49-1 100900-07-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of C-terminal **fluorescently labeled**
peptides)
IT 163265-38-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of C-terminal **fluorescently labeled**
peptides)
L34 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:527679 CAPLUS
DOCUMENT NUMBER: 117:127679
TITLE: Continuous flow immunoassay: use of a novel
trifunctional carrier molecule for the
synthesis of fluorophore-labeled antigens
AUTHOR(S): Bredehorst, Reinhard; Wemhoff, Gregory A.; Kusterbeck,
Anne W.; Charles, Paul T.; Ligler, Frances S.; Vogel,
Carl Wilhelm
CORPORATE SOURCE: Dep. Biochem. Mol. Biol., Georgetown Univ.,
Washington, DC, 20007, USA
SOURCE: GBF Monographs (1992), 17(Biosens.:
Fundam., Technol. Appl.), 453-60
CODEN: GBMOEB; ISSN: 0930-4320
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A **fluorescent** immunosensor operating in continuous flow and capable of detecting low-mol.-wt. antigens was developed. The approach differs from previously described continuous flow assays by not requiring incubation steps or the introduction of reagents following the loading of the sample into the system. Detection of the antigen is rapid, occurring within 3 min in the system described. The assay is based on the binding of **labeled** antigen to an immobilized antibody, with subsequent displacement of the **labeled** antigen when antigen is present in the buffer flow. To increase the sensitivity of the assay, the authors developed a novel **trifunctional** carrier mol. for the **fluorescent labeling** of the antigen. The backbone of the carrier consists of the 21 amino acid residues of the insulin A-chain, which provides a single site (terminal amino group) for covalent coupling of the antigen, 3 carboxyl groups for the attachment of fluorophores, and 4 sulfhydryl groups for derivatization with hydrophilic residues to compensate for the hydrophobic effect on the fluorophores. In this study, the model antigen 2,4-dinitrophenol (DNP) was coupled to the terminal amino group, the sulfhydryl groups were oxidized to S-sulfonates, and the carboxyl groups were derivatized with **fluorescein** using

carbohydrazide as spacer. The properties of the DNP-insulin A-chain-**fluorescein** conjugate (DNP-Ins-Fl) were compared to those of a DNP deriv. **labeled** with a single **fluorescein** residue via a small lysine spacer (DNP-Lys-Fl). At equimolar concns. the DNP-Ins-Fl generated a 2.6-fold higher **fluorescent** signal than the DNP-Lys-Fl, and exhibited a 3-fold lower nonspecific adsorption to immobilized nonimmune IgG. Due to these properties of DNP-Ins-Fl, as little as 50 pmol of DNP-lysine could be detected in the **fluorescent** continuous flow immunoassay.

CC 9-10 (Biochemical Methods)
 ST antigen detn continuous flow immunoassay
 IT Immunoassay
 (continuous flow, antigen detn. by, biosensor for)
 IT Antigens
 RL: ANT (Analyte); ANST (Analytical study)
 (detn. of, by continuous flow immunoassay, biosensor for)
 IT Biosensors
 (immunol., for antigen detn. by continuous flow immunoassay)

L34 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

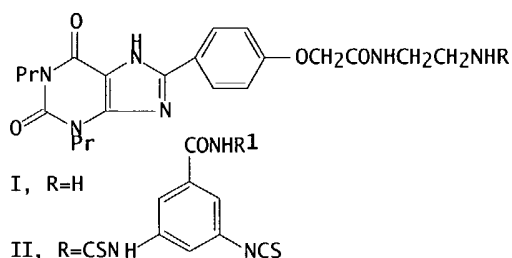
ACCESSION NUMBER: 1991:604814 CAPLUS
 DOCUMENT NUMBER: 115:204814
 TITLE: Biosynthesis of collagen crosslinks. III. In vivo **labeling** and stability of lung collagen in rats with bleomycin-induced pulmonary fibrosis
 AUTHOR(S): Last, Jerold A.; Reiser, Karen M.
 CORPORATE SOURCE: Sch. Med., Univ. California, Davis, CA, 95616, USA
 SOURCE: American Journal of Respiratory Cell and Molecular Biology (1989), 1(2), 111-17
 CODEN: AJRBEL; ISSN: 1044-1549
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Rats were injected i.p. with 1 mCi (each) of [3H]lysine at day 11 of neonatal life to **label** their lung collagen. Five weeks later, half of the animals were given an intratracheal injection of 1.5 U of bleomycin sulfate via a tracheostomy; control animals received saline intratracheally by the same technique. Age-matched groups of control and bleomycin-treated rats were killed, and their lung collagen was analyzed at zero (control animals only), 1, 2, 4, 6, and 10 wk after bleomycin administration, a time course appropriate for development of pulmonary fibrosis in this animal model. The authors measured radioactivity in hydroxylysine and in the difunctional collagen crosslinks hydroxylysinoxonoleucine and dihydroxylysinoxonoleucine at each time point. No evidence of breakdown of this pool of mature, preformed collagen was obsd. in lungs of either the control or the bleomycin-treated rats. The authors also measured the total lung content of hydroxypyridinium, and **trifunctional** collagen crosslink, by its intrinsic **fluorescence**. There was no evidence of collagen degrdn. in lungs of either group of rats by this criterion either. Thus, there is no biochem. detectable turnover of mature lung collagen, defined as that pool of lung collagen that is obligatorily extracellular (i.e., crosslinked and contg. **labeled** hydroxylysine from an injection of precursor 5 to 15 wk earlier), in either normal rat lungs or lungs of rats made fibrotic with bleomycin. The methodol. was sensitive and precise enough to have detected turnover of <0.5% of lung collagen per day, .apprx.20-fold less than ests. of lung collagen turnover that have been suggested to be occurring in vivo by using different techniques and presumably studying different pools of lung collagen.

CC 14-4 (Mammalian Pathological Biochemistry)
 ST lung fibrosis collagen crosslink degrdn
 IT Collagens, biological studies
 RL: BIOL (Biological study)
 (degrdn. and turnover of mature, of lung, lung fibrosis in relation to)
 IT Lung, disease or disorder
 (fibrosis, mature collagen degrdn. in lung in relation to)

L34 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:505429 CAPLUS
 DOCUMENT NUMBER: 115:105429
 TITLE: **Trifunctional** agents as a design strategy
 for tailoring ligand properties: irreversible
 inhibitors of A1 adenosine receptors
 AUTHOR(S): Boring, Daniel L.; Ji, Xiao Duo; Zimmet, Jeff; Taylor,
 Kirk E.; Stiles, Gary L.; Jacobson, Kenneth A.
 CORPORATE SOURCE: Lab. Bioorg. Chem., Natl. Inst. Diabetes, Dig. Kidney
 Dis., Bethesda, MD, 20892, USA
 SOURCE: Bioconjugate Chemistry (1991), 2(2), 77-88
 CODEN: BCCHES; ISSN: 1043-1802
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB The 1,3-phenylene diisothiocyanate conjugate of XAC (I), a potent A1 selective adenosine antagonist) was characterized as an irreversible inhibitor of A1 adenosine receptors. To further extend this work, a series of analogs (e.g., II) were prepd. contg. a third substituent in the phenylisothiocyanate ring, incorporated to modify the physicochem. or spectroscopic properties of the conjugate. Sym. **trifunctional** crosslinking reagents bearing two isothiocyanate groups were prepd. as general intermediates for crosslinking functionalized congeners and receptors. Xanthine isothiocyanate derivs. contg. hydrophilic, **fluorescent**, or reactive substituents, linked via an amide, thiourea, or methylene group in the 5-position, were synthesized and found to be irreversible inhibitors of A1 adenosine receptors. The effects of the 5-substituent on water soly. and on the A1/A2 selectivity ratios derived from binding assays in rat brain membranes were examd. Inhibition of binding of [3H]-N6-(2-phenylisopropyl)adenosine and [3H]CGS 21680 [2-[2-[4-(2-carboxyethyl)phenyl]ethyl]amino]adenosine-5'-N-ethylcarboxamide] at central A1 and A2 adenosine receptors, resp., was measured. A conjugate of XAC and 1,3,5-triisothiocyanatobenzene was 894-fold selective for A1 receptors. Reporter groups, such as **fluorescent** dyes and a spin-label, were included as chain substituents in the irreversibly binding analogs, which were designed for spectroscopic assays, histochem. characterization, and biochem. characterization of the receptor protein.

CC 1-3 (Pharmacology)

Section cross-reference(s): 9

ST A1 adenosine receptor inhibitor

IT Solubility

(of isothiocyanatophenyl conjugates of amine group-contg. xanthine derivs., A1 adenosine receptor irreversible inhibitors in relation to)

IT Receptors

RL: BIOL (Biological study)

(purinergic A1, irreversible inhibitors of, isothiocyanatophenyl conjugates of amine group-contg. xanthine derivs. as)

IT Molecular structure-biological activity relationship

(purinergic A1 antagonist, of isothiocyanatophenyl conjugates of amine group-contg. xanthine derivs.)

- IT 120059-19-0
RL: BIOL (Biological study)
(A1 adenosine receptor inhibitory activity of, isothiocyanate derivs. in relation to)
- IT 58-61-7, Adenosine, biological studies
RL: BIOL (Biological study)
(A1 receptors for, irreversible inhibitors of, isothiocyanatophenyl conjugates of amine group-contg. xanthine derivs. as)
- IT 108-00-9, N,N-Dimethylethylenediamine 1001-53-2, N-Acetythylenediamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of, with dinitrobenzoyl chloride)
- IT 99-33-2, 3,5-Dinitrobenzoylchloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(amidation of)
- IT 108-45-2, 1,3-Phenylenediamine, biological studies 618-56-4, 3,5-Diaminobenzoic acid dihydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(butoxy carbonylation of)
- IT 133887-95-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and A1 adenosine receptor inhibitory activity of)
- IT 133887-82-8P 133887-99-7P 133888-00-3P 133888-01-4P 133888-02-5P
133888-03-6P 133888-04-7P 133888-05-8P 133888-06-9P 133888-07-0P
133888-08-1P 133888-09-2P 133888-10-5P 133888-11-6P 133888-12-7P
133888-13-8P 133888-14-9P 133888-15-0P 133888-16-1P 133888-17-2P
133888-18-3P 133909-49-6P 133909-50-9P 133909-51-0P 133983-35-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and A1 adenosine receptor inhibitory activity of)
- IT 133887-85-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and acylation of)
- IT 133887-86-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and amidation of)
- IT 133887-84-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and amidation of, with ethylenediamine)
- IT 133887-87-3P 133888-19-4P 133888-20-7P 133888-21-8P 133888-22-9P
133888-23-0P 133888-24-1P 133888-25-2P 133909-52-1P 133909-53-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and deprotection of)
- IT 133887-83-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and esterification of)
- IT 40479-93-4P 133887-98-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with amine group-contg. xanthine deriv.)
- IT 101670-67-1P 133887-91-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with amines)
- IT 133887-97-5P 133888-33-2P 133888-34-3P 133888-35-4P 133888-36-5P
133888-37-6P 133888-38-7P 133888-39-8P 133909-56-5P 133930-01-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with amino group-contg. xanthine deriv.)
- IT 133888-41-2P 133888-42-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with amino group-contg. xanthine derivs.)
- IT 133887-94-2P

- RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with dipropylxanthine deriv.)
- IT 28150-13-2P 68621-88-5P 133888-29-6P 133888-31-0P 133888-32-1P
133909-55-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with thiophosgene)
- IT 133887-89-5P 133887-93-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction with thiophosgene)
- IT 133887-88-4P 133887-92-0P 133888-26-3P 133888-27-4P 133888-40-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and redn. of)
- IT 70393-59-8P 133887-90-8P 133887-96-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
- IT 96865-92-8DP, XAC, phenylene diisocyanate conjugates
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as irreversible inhibitors of A1 adenosine receptors)
- IT 2131-63-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with amine group-contg. xanthine deriv.)
- IT 463-71-8, Thiophosgene
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with amino group-contg. xanthine derivs.)
- IT 3326-32-7 10199-89-0, 4-Chloro-7-nitrobenzofurazan 34071-95-9,
N-Succinimidyl 3-(4-hydroxyphenyl)propionate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminobenzoylaminoethylamine deriv.)
- IT 133887-81-7 133888-43-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dipropylxanthine deriv.)
- IT 107-15-3, Ethylenediamine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with isothiocyanatophenyl group-contg. xanthine derivs.)
- IT 108-72-5, 1,3,5-Triaminobenzene 141-86-6, 2,6-Diaminopyridine
535-87-5, 3,5-Diaminobenzoic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with thiophosgene)
- IT 1949-51-5
RL: BIOL (Biological study)
(reaction with thiophosgene or lithium aluminum hydride redn. of)
- IT 618-87-1
RL: BIOL (Biological study)
(redn. or reaction with thiophosgene)

L34 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:425407 CAPLUS

DOCUMENT NUMBER: 115:25407

TITLE: Novel **trifunctional** carrier molecule for the
fluorescent labeling of haptens

AUTHOR(S): Bredehorst, Reinhard; Wemhoff, Gregory A.; Kusterbeck,
Anne W.; Charles, Paul T.; Thompson, Richard B.;
Ligler, Frances S.; Vogel, Carl Wilhelm

CORPORATE SOURCE: Dep. Biochem. Mol. Biol., Georgetown Univ.,
Washington, DC, 20007, USA

SOURCE: Analytical Biochemistry (1991), 193(2),
272-9

CODEN: ANBCA2; ISSN: 0003-2697

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors developed a novel **trifunctional** carrier mol. for the
synthesis of hapten-fluorophore conjugates as reporter mols. in
immunoassays. This carrier eliminates some of the disadvantages assocd.

with currently used fluorophore-labeling procedures including high nonspecific binding. The backbone of the carrier consists of the 21 amino acid residues of the insulin A-chain mol. This polypeptide provides a single site (terminal amino group) for covalent coupling of the hapten, three carboxyl groups for the attachment of fluorophores, and four sulfhydryl groups for derivatization with hydrophilic residues to compensate for the hydrophobic effect of the attached fluorophores. The sites for fluorophore attachment are 4, 17, and 21 amino acids away from the hapten attachment site. This spatial sepn. minimizes quenching of the fluorescence signal due to interaction of the fluorophores with each other and with the attached hapten. 2,4-Dinitrophenol (DNP) was selected as model hapten, fluorescein as label, and S-sulfonate groups as hydrophilic residues. The properties of the DNP-insulin A-chain-fluorescein conjugate (DNP-Ins-Fl) were compared to those of a DNP deriv. labeled with a single fluorescein moiety via a small lysine spacer (DNP-Lys-Fl). The DNP-Ins-Fl conjugate exhibited a 3-fold lower nonspecific adsorption to immobilized non-immune Ig contributing to an approx. 3-fold more efficient displacement from the binding sites of an immobilized monoclonal anti-DNP antibody by the antigen DNP-lysine. Furthermore, at equimolar concns. the DNP-Ins-Fl generated a 2.6-fold higher fluorescent signal than DNP-Lys-Fl. Due to these properties of DNP-Ins-Fl, DNP-lysine could be detected with an approx. 10-fold higher sensitivity compared to DNP-Lys-Fl as labeled antigen. The use of DNP-Ins-Fl as reporter molecule in a competitive fluoroimmunoassay allowed the quant. detn. of picomole amts. of DNP-lysine.

- CC 9-10 (Biochemical Methods)
 ST fluoroimmunoassay **trifunctional** carrier mol; immunoassay
trifunctional carrier mol; dinitrophenol insulin FITC
 IT Immunochemical analysis
 (fluorescence immunoassay, **trifunctional** carrier
 mol. prepn. for)
 IT 24696-20-6
 RL: ANT (Analyte); ANST (Analytical study)
 (detn. of, by fluoroimmunoassay)
 IT 134546-27-3P 134649-45-9P
 RL: PREP (Preparation)
 (prepn. of, for fluoroimmunoassay)
 IT 14401-10-6 134664-50-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with FITC)
 IT 134649-44-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carbonylhydrazide)
 IT 27072-45-3, FITC
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with carbonylhydrazide-derivatized dinitrophenol-insulin A
 chain in tetra-S-sulfonate form or dinitrophenol-lysine hydrochloride)
 IT 497-18-7, Carbonylhydrazide
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with dinitrophenol-derivatized insulin A-chain in
 tetra-S-sulfonate form)
 IT 18152-38-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with fluorodinitrobenzene)
 IT 70-34-8, 1-Fluoro-2,4-dinitrobenzene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with insulin A chain in tetra-S-sulfonate form)

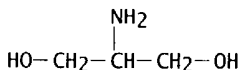
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L9 19 SEA FILE=REGISTRY ABB=ON PLU=ON (108-55-4/BI OR 150-25-4/BI
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OR 403656-56-4/BI OR 403656-57-5/BI OR 403656-58-6/BI OR
403656-59-7/BI OR 403656-60-0/BI OR 403656-61-1/BI OR 403656-62
-2/BI OR 40615-36-9/BI OR 534-03-2/BI OR 82911-69-1/BI)
L15 279378 SEA FILE=REGISTRY ABB=ON PLU=ON (N AND O AND H AND C)/ELS
AND 4/ELC.SUB NOT (RSD/FA OR PMS/CI)
L16 2 SEA FILE=REGISTRY ABB=ON PLU=ON L15 AND L9
L35 1119 SEA FILE=CAPLUS ABB=ON PLU=ON L16
L36 23 SEA FILE=CAPLUS ABB=ON PLU=ON L35 AND FLUORESC?
L37 10 SEA FILE=CAPLUS ABB=ON PLU=ON L36 AND (DNA OR NUCLEIC OR
LABEL?)

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L37 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:583967 CAPLUS
DOCUMENT NUMBER: 139:265603
TITLE: Pyridinium-based cationic lipids as gene-transfer
agents
AUTHOR(S): Ilies, Marc Antoniu; Seitz, William A.; Caproiu, Miron
T.; Wentz, Melissa; Garfield, Robert E.; Balaban,
Alexandru T.
CORPORATE SOURCE: Department of Marine Sciences, Texas A and M
University at Galveston, Galveston, TX, 77551, USA
SOURCE: European Journal of Organic Chemistry (2003), (14),
2645-2655
CODEN: EJOCHF; ISSN: 1434-193X
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cationic lipids are a promising alternative to viral vectors for gene
therapy, allowing the delivery of larger plasmids without immunogenicity,
despite their lower transfection efficiency. Among them, heterocyclic
systems with imidazolium or pyridinium polar head groups have definite
advantages such as the excellent transfection profiles and low
cytotoxicity. The authors' approach for synthesizing heterocyclic
cationic lipids differs from those previously described because the
authors synthesize a pyridinium ring from simple starting materials.
First a pyrylium salt is formed via diacylation of alkenes. The pyrylium
salt is then converted by primary amines into pyridinium salts.
Appropriate choice of the primary amine allows the attachment of two
hydrophobic chains yielding compds. 21A and 25A (with various chain
lengths derived from palmitic, stearic and oleic acids). The same
strategy allowed the prepn. of lipophilic derivs. 21B, 25B useful as
strongly **fluorescent** markers for the study of the properties of
biol. membranes. Preliminary tests with some of the compds. 21A and 25A,
on several cell lines, showed comparable transfection efficiencies and
lower cytotoxicity than those obtained with std. com. transfection agents.
IT 534-03-2, 2-Amino-1,3-propanediol
RL: RCT (Reactant); RACT (Reactant or reagent)
(pyridinium-based cationic lipids as gene-transfer agents)
RN 534-03-2 CAPLUS
CN 1,3-Propanediol, 2-amino- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L37 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:710240 CAPLUS
DOCUMENT NUMBER: 138:188003
TITLE: New ligand combinations for the efficient
stabilization of short **nucleic acid** hairpins
AUTHOR(S): Michel, Justine; Bathany, Katell; Schmitter,
Jean-Marie; Monti, Jean-Pierre; Moreau, Serge
CORPORATE SOURCE: IFR Pathologies Infectieuses, Universite Victor
Segalen Bordeaux, Bordeaux, 33076, Fr.
SOURCE: Tetrahedron (2002), 58(39), 7975-7982
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:188003

AB Short **nucleic acid** hairpins (one or two base-pair stems) were
strongly stabilized by simple chem. modifications. Non-nucleosidic pyrene
or naphthalene diimide derivs. were appended at both 3' and 5' nearby ends
of 2'-OMe RNA hairpins, yielding a very large increase in melting temps.
of the modified structures (from +21 to +55.degree.C). The excimer
formation between the two consecutive pyrene units is in favor of
end-stacked pyrenyl rings.

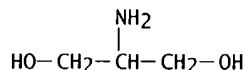
IT 534-03-2, Serinol

RL: RCT (Reactant); RACT (Reactant or reagent)

(thermal stability, mol. modeling and **fluorescence** of short
RNA hairpins appended with pyrene or naphthalene diimide derivs. at the
3' and 5' ends)

RN 534-03-2 CAPLUS

CN 1,3-Propanediol, 2-amino- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:183792 CAPLUS
DOCUMENT NUMBER: 136:232506
TITLE: **Labeling** reagents that are stable during the
synthesis of **labeled nucleic acids**
INVENTOR(S): Heindl, Dieter; Sagner, Gregor; Maerz, Heribert; Von
der Eltz, Herbert
PATENT ASSIGNEE(S): Roche Diagnostics GmbH, Germany; F. Hoffmann-La Roche
Ag
SOURCE: Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1186613	A1	20020313	EP 2001-121139	20010904
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10044373	A1	20020321	DE 2000-10044373	20000908
US 2002110691	A1	20020815	US 2001-943411	20010830
JP 2003012951	A2	20030115	JP 2001-272569	20010907

PRIORITY APPLN. INFO.: DE 2000-10044373 A 20000908

OTHER SOURCE(S): MARPAT 136:232506

AB The present invention concerns a **labeling** reagent in which the
label is bound via an amide bond and a linker to a residue of the

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mol. which is essentially characterized in that the N atom of the amide bond and the label are linked together directly by a covalent bond. In particular, these are phosphoramidites or reactive supports suitable for nucleic acid synthesis, such that the label is not subjected to a strong electron-acceptor effect and remains stable during the oligonucleotide synthesis. Such e=mols. contain a substituent having the structural element -CH₂-CO-NH-M in which M denotes the detectable label such as a fluorescent dye, such as Fluorescein which is optionally provided with protective groups. The covalent amide linking ensures an adequately stable coupling fo the fluorescent dye during oligonucleotide synthesis and does not influence the spectral properties of the fluorescent dye compared to derivs. coupled with a thiourea linker. The invention also concerns processes for the prodn. of such supports from suitable precursors. Synthetic protocols are provided for the synthesis of (1) glutaryl-amino-bisphaloylfluorescein NHS ester contg. 1-methoxytrityloxy-3-hydroxy-2-aminopropane and (2) N-(2-hydroxyethyl)-N-(2-dimethoxytrityloxyethyl)-5-(2-amino-ethylcarboxamido)-bispivaloylfluorescein, and their use in labeling during solid-phase nucleic acid synthesis.

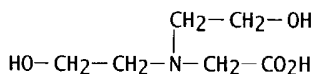
IT 150-25-4, Bicine 534-03-2, Serinol

RL: RCT (Reactant); RACT (Reactant or reagent)

(labeling reagents that are stable during the synthesis of labeled nucleic acids)

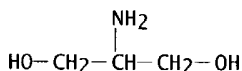
RN 150-25-4 CAPLUS

CN Glycine, N,N-bis(2-hydroxyethyl)- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 534-03-2 CAPLUS

CN 1,3-Propanediol, 2-amino- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:158024 CAPLUS

DOCUMENT NUMBER: 136:211837

TITLE: Chimeric oligonucleotides as primers for isothermal nucleic acid amplification and probes for detection

INVENTOR(S): Sagawa, Hiroaki; Uemori, Takashi; Mukai, Hiroyuki; Yamamoto, Junko; Tomono, Jun; Kobayashi, Eiji; Enoki, Tatsuji; Asada, Kiyozo; Kato, Ikunoshin

PATENT ASSIGNEE(S): Takara Shuzo Co., Ltd., Japan

SOURCE: PCT Int. Appl., 332 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002016639	A1	20020228	WO 2001-JP7139	20010821
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				

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GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS,
 LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
 UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001078783 A5 20020304 AU 2001-78783 20010821

EP 1312682 A1 20030521 EP 2001-956988 20010821

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.:

JP 2000-251981 A 20000823

JP 2000-284419 A 20000919

JP 2000-288750 A 20000922

JP 2001-104191 A 20010403

WO 2001-JP7139 W 20010821

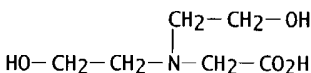
AB A method of highly sensitively and specifically amplifying a target nucleic acid in a sample by using a chimeric oligonucleotide primer having a ribonucleotide provided at the 3'-terminus or in the 3'-terminal side, an endoribonuclease and a DNA polymerase having a strand displacement activity, i.e., an isothermal and chimeric primer-initiated amplification of nucleic acids (ICAN) method; a method of detecting an amplified fragment obtained by using the above method; a process for producing a target nucleic acid by using the above amplification method; and chimeric oligonucleotide primers to be used in these methods, are disclosed. Application of this method in detection of pathogenic microorganisms such as enterohemorrhagic E. coli, Clostridium botulinum, Staphylococcus aureus, Mycobacterium tuberculosis, chlamydia, papilloma virus, hepatitis virus C, or viroid, and disease-assocd. genes, is claimed. Use of spermidine or propylene diamine in annealing soln., and bicine or HEPES in buffer, is claimed. Use of manganese ion for stimulating endonuclease activity, and phosphonoformic acid as DNA polymerase activity inhibitor, is claimed. The chimeric oligonucleotide primers have deoxyribonucleotides at the 3' end replaced by ribonucleotides, which can be removed by endonuclease. Single or double stranded DNA, cDNA, or RNA can be used as template. For detecting a target nucleic acid, fluorescent labeled RNA probe immobilized on an array are used. A single stranded DNA and cDNA derived from RNA were used as template for amplification. Bacillus stearothermophilus derived DNA polymerase lacking 5'-3' exonuclease activity Bst DNA polymerase, or Bacillus caldodenax derived DNA polymerase lacking 5'-3' exonuclease activity Bca DNA polymerase, RNase H from E. coli, Thermotoga, Thermus, Pyrococcus, Archaeoglobus, or Bacillus, and chimeric oligonucleotide primers were used. E. coli O-157 strain was detected using the nucleic acid amplification method described above.

IT 150-25-4, Bicine

RL: MOA (Modifier or additive use); USES (Uses)
 (buffer; chimeric oligonucleotides as primers for isothermal nucleic acid amplification and probes for detection)

RN 150-25-4 CAPLUS

CN Glycine, N,N-bis(2-hydroxyethyl)- (6CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:789716 CAPLUS

DOCUMENT NUMBER: 132:22182

TITLE: Preparation of antibody for immunoassay of FTY720

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IT 534-03-2, Serinol

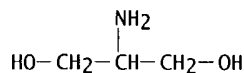
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      (prepn. of nonnucleotide monomers and combinatorial library mixts. of
      phosphorus ester oligomers)

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RN 534-03-2 CAPLUS

CN	1,3-Propanediol, 2-amino- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
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ACCESSION NUMBER: 1992:37531 CAPLUS

DOCUMENT NUMBER: 116:37531

DOCUMENT NUMBER: 110,37,331
TITLE: Reversible modification of biological compounds for detection, separation and purification thereof

INVENTOR(S): Coull, James M.; Gildea, Brian; Koester, Hubert

PATENT ASSIGNEE(S): Millipore Corp., USA

SOURCE: Eur. Pat. Appl., 32 pp.

CODEN: EPXXDW

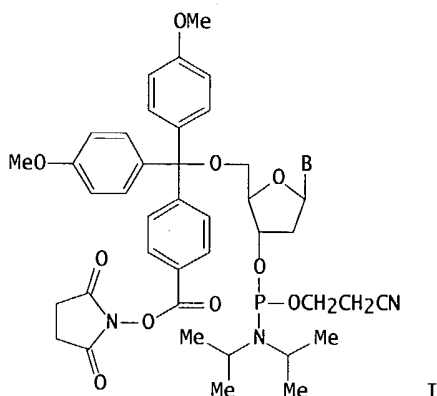
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 424819	A1	19910502	EP 1990-120093	19901019
EP 424819	B1	19941228		
R: DE, FR, GB, IT, NL, SE				
US 5410068	A	19950425	US 1989-425740	19891023
JP 03279371	A2	19911210	JP 1990-283585	19901023
PRIORITY APPLN. INFO.:			US 1989-425740	19891023
OTHER SOURCE(S):		MARPAT 116:37531		
GI				



AB Compds. and methods are provided for the reversible modification of natural products, natural product synthons, biopolymers, or biopolymer synthons, e.g. nucleosides, nucleotides, oligonucleosides. The modification allows a variety of chemistries to be performed on these compds., yet can be removed to regenerate functional groups on the natural

product, biopolymer, or synthon of interest. The compds. of the invention serve as a protecting group for a functional group on the natural product, biopolymer, or synthon, and as a linking group for attaching a modifying moiety thereto. Prepn. of N-succinimidyl-4-[bis-4-(methoxyphenyl)-5'-O-(3'-O-(N,N-diisopropylamino-2-cyanoethylphosphinyl)-2-deoxynucleosidyl)-methyl] benzoates (I), e.g. I (B = thymine), is described. The modified nucleosides were used in the synthesis of biotin- and fluorescein-labeled polymerase chain reaction (PCR) oligonucleotide primers. Use of the 5'-modified oligonucleotides of the invention for the purifn. of PCR products was demonstrated.

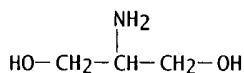
IT 534-03-2, 2-Amino-1,3-propanediol

RL: ANST (Analytical study)

(aminolysis of hydroxysuccinimidyl group of heterofunctional protecting group-contg. nucleoside deriv. with)

RN 534-03-2 CAPLUS

CN 1,3-Propanediol, 2-amino- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L37 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:467835 CAPLUS

DOCUMENT NUMBER: 115:67835

TITLE: A new multiphasic buffer system for sodium dodecyl sulfate-polyacrylamide gel electrophoresis of proteins and peptides with molecular masses 100,000-1000, and their detection with picomolar sensitivity

AUTHOR(S): Wiltfang, Jens; Arold, Norbert; Neuhoﬀ, Volker

CORPORATE SOURCE: Forschungsstelle Neurochem., Max-Planck-Inst. Exp.

Med., Goettingen, 3400, Germany

SOURCE: Electrophoresis (1991), 12(5), 352-66

CODEN: ELCTDN; ISSN: 0173-0835

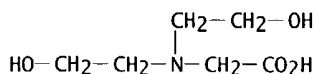
DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel multiphasic buffer system for high-resoln. SDS-PAGE of dansylated and nondansylated proteins/peptides in the relative mol. mass (Mr) range of 100,000-1000 is described. The system, based on Jovin's theory of multiphasic zone electrophoresis, allows complete stacking and destacking of proteins/peptides within the above Mr range. The buffer system uses Bicine and sulfate as trailing and leading ion, resp., and Bistris and Tris as counter ions in the stacking and sepg. phase, resp. Through selection of 2 different counter ions, the characteristic feature of the present ionic system, the stacking limits of a multiphasic buffer system can be further widened, thus making it applicable to gel electrophoresis of a larger spectrum of rapidly migrating species, such as SDS-proteins/peptides and nucleic acids, than has been possible previously. Highly sensitive detection methods for proteins as well as for polypeptides down to approx. Mr 1000 are described. Dansylated proteins/peptides were detected by their fluorescence either directly within the gel or following electroblotting into anion-exchange or polyvinylidene difluoride membranes. The latter procedure resulted in detection sensitivities of approx. 1 ng. Nondansylated proteins/peptides were either detected within the gel by colloidal Coomassie staining or by electroblotting into polyvinylidene difluoride membranes, followed by colloidal gold staining. Prior to both staining procedures the proteins/peptides were pretreated with glutardialdehyde in the presence of borate at near neutral pH values to generate protein/peptide polymers of poor soly. For a given pH the efficiency of the latter procedure was significantly influenced by the nature of the buffer ion used in the fixation buffer. In contrast to conventional fixation procedures even small polypeptides (Mr 1000) were immobilized and approx. 15 ng and 0.75 ng could be detected after colloidal Coomassie and colloidal gold staining, resp.

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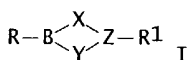
IT 150-25-4
RL: ANST (Analytical study)
(as trailing ion, in gel electrophoresis of peptides and proteins)
RN 150-25-4 CAPLUS
CN Glycine, N,N-bis(2-hydroxyethyl)- (6CI, 8CI, 9CI) (CA INDEX NAME)



L37 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1984:420209 CAPLUS
DOCUMENT NUMBER: 101:20209
TITLE: Reporter compounds
INVENTOR(S): Gallop, Paul M.; Paz, Mercedes
PATENT ASSIGNEE(S): Children's Hospital Medical Center, Philadelphia, USA
SOURCE: PCT Int. Appl., 109 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

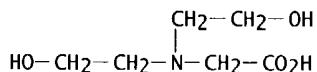
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8304255	A1	19831208	WO 1982-US725	19820526
W: DE, GB, JP				
RW: AT, BE, CH, DE, FR, GB, LU, NL, SE				
EP 110879	A1	19840620	EP 1982-902137	19820526
R: AT, BE, CH, DE, FR, GB, LI, LU, NL, SE				
PRIORITY APPLN. INFO.:			WO 1982-US725	19820526

GI



AB A new class of water-sol. reagents named boronate-dependent phase-transfer compds. (I, R = a reporter group, e.g. a fluorophore, chromophore, organometallic group, drug, antigen, or isotopically labeled group; Z = a receptor group; R1 = a carrier group; and X = Y = N, O, or S) is described. I allows groups that can report on conditions within living cells or modify metabolic parameters within tissues to be taken up by the cells under nontoxic conditions. I has a broad range of applications and can be used for staining living cells for disease diagnosis, for solubilization of drugs, for staining proteins, for staining or brightening fabrics, for staining paper products, and for various assay methods, such as peroxide, antibody, glucose, and esterase detns. in which **fluorescence** or color intensity is measured. An app. is also described for assaying, in aq. soln., a compd. which participates in a chem. reaction which results in the prodn. of peroxide.

IT 150-25-4
RL: ANST (Analytical study)
(boronate-dependent phase-transfer compds. in relation to)
RN 150-25-4 CAPLUS
CN Glycine, N,N-bis(2-hydroxyethyl)- (6CI, 8CI, 9CI) (CA INDEX NAME)

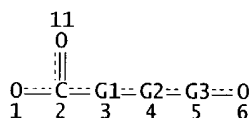


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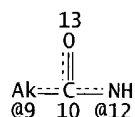
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VAR G2=N/CH

REP G3=(1-20) CH2

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 8

CONNECT IS E2 RC AT 9

DEFAULT MLEVEL IS ATOM

GGCAT IS LIN SAT AT 8

GGCAT IS LIN SAT AT 9

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

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L27 16 SEA FILE=REGISTRY SUB=L25 SSS FUL L18

L29 7 SEA FILE=CAPLUS ABB=ON PLU=ON L27

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L29 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:780750 CAPLUS

DOCUMENT NUMBER: 135:348958

TITLE: Antithrombogenic membrane mimetic compositions and methods

INVENTOR(S): Chaikof, Elliot L.; Feng, June; Orban, Janine M.; Liu, Hongbo; Sun, Xue-Long

PATENT ASSIGNEE(S): Emory University, USA

SOURCE: PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001078800	A1	20011025	WO 2001-US12094	20010413
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1272237	A1	20030108	EP 2001-926959	20010413
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004511267	T2	20040415	JP 2001-576099	20010413
PRIORITY APPLN. INFO.:			US 2000-197072P	P 20000413
			US 2000-221618P	P 20000728
			WO 2001-US12094	W 20010413

OTHER SOURCE(S): MARPAT 135:348958

AB The present specification describes materials and methods which provide for improved performance of medical prostheses, including vascular graft material, artificial heart valves, and other implanted materials. The materials comprising bound thrombomodulin or a functionally equiv. deriv. protein, provide for fewer undesirable side effects including inflammation, thromboses and neointimal hyperplasia. Acrylic-

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phosphatidylcholine (prepn. given) liposomes contg. thrombomodulin were prepd. and photopolymd. Over 95% of the thrombomodulin activity was found to be assocd. with the lipid vesicles.

IT 370102-90-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(antithrombogenic membrane mimetic compns. and methods)

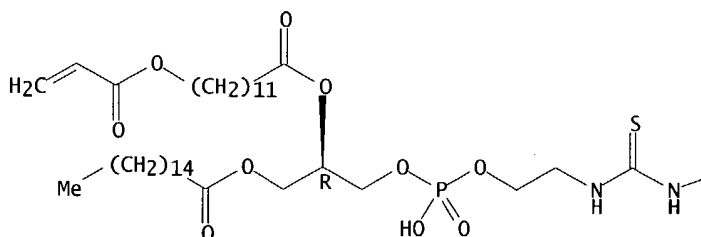
RN 370102-90-2 CAPLUS

CN Hexadecanoic acid, (2R)-10-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9']-[9H]xanthen]-5-yl)amino]-5-hydroxy-5-oxido-2-[[1-oxo-12-[(1-oxo-2-propenyl)oxy]dodecyl]oxy]-10-thioxo-4,6-dioxo-9-aza-5-phosphadec-1-yl ester (9CI) (CA INDEX NAME)

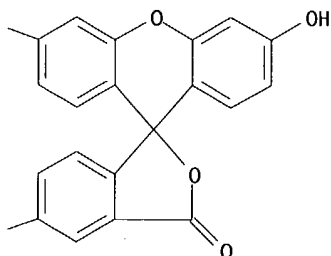
Absolute stereochemistry.

PAGE 1-A

HO



PAGE 1-B



IC ICM A61L033-00

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 23

ST antithrombogenic medical good thrombomodulin liposome

IT Polymers, biological studies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(amphiphilic; antithrombogenic membrane mimetic compns. and methods)

IT Anticoagulants

Polyelectrolytes

Prosthetic materials and Prosthetics

(antithrombogenic membrane mimetic compns. and methods)

IT Thrombomodulin

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(antithrombogenic membrane mimetic compns. and methods)

IT Acrylic polymers, biological studies

Collagens, biological studies

Gelatins, biological studies

Glass, biological studies

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- Metals, biological studies
 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (antithrombogenic membrane mimetic compns. and methods)
- IT Phospholipids, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (antithrombogenic membrane mimetic compns. and methods)
- IT Medical goods
 (antithrombogenic; antithrombogenic membrane mimetic compns. and methods)
- IT Organ, animal
 (artificial; antithrombogenic membrane mimetic compns. and methods)
- IT Proteins, specific or class
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (c; antithrombogenic membrane mimetic compns. and methods)
- IT Artery
 (carotid; antithrombogenic membrane mimetic compns. and methods)
- IT Phosphatidylcholines, biological studies
 Phosphatidylethanolamines, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (conjugates; antithrombogenic membrane mimetic compns. and methods)
- IT Prosthetic materials and Prosthetics
 (implants, vascular; antithrombogenic membrane mimetic compns. and methods)
- IT Prosthetic materials and Prosthetics
 (implants; antithrombogenic membrane mimetic compns. and methods)
- IT Drug delivery systems
 (liposomes; antithrombogenic membrane mimetic compns. and methods)
- IT Medical goods
 (stents; antithrombogenic membrane mimetic compns. and methods)
- IT Medical goods
 (tubes; antithrombogenic membrane mimetic compns. and methods)
- IT Heart
 (valve, artificial; antithrombogenic membrane mimetic compns. and methods)
- IT Heart
 (valve; antithrombogenic membrane mimetic compns. and methods)
- IT Transplant and Transplantation
 (xenotransplant; antithrombogenic membrane mimetic compns. and methods)
- IT 7440-21-3, Silicon, biological studies 9005-32-7, Alginic acid
 25104-18-1, Poly L-lysine 38000-06-5, Poly L-lysine 278803-41-1
 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (antithrombogenic membrane mimetic compns. and methods)
- IT 57-10-3, Palmitic acid, reactions 302-04-5, Isothiocyanate, reactions
 32159-15-2 35013-72-0 55750-63-5 99743-69-8 109786-74-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (antithrombogenic membrane mimetic compns. and methods)
- IT 139100-83-7P 370102-86-6P 370102-87-7P 370102-88-8P 370102-89-9P
370102-90-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (antithrombogenic membrane mimetic compns. and methods)
- IT 370102-91-3P 370102-92-4P
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (antithrombogenic membrane mimetic compns. and methods)
- IT 182036-73-3 337453-78-8 370970-04-0 370970-05-1
 RL: PRP (Properties)
 (unclaimed nucleotide sequence; antithrombogenic membrane mimetic compns. and methods)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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ACCESSION NUMBER: 2001:661955 CAPLUS
DOCUMENT NUMBER: 135:372055
TITLE: Fabrication and characterization of a polymeric lipid membrane on a polyelectrolyte thin film
AUTHOR(S): Sun, Xue-Long; Liu, Hongbo; Faucher, Keith M.; Feng, June; Chaikof, Elliot L.
CORPORATE SOURCE: Departments of Bioengineering and Surgery, Emory University School of Medicine, Atlanta, GA, 30322, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2001), 42(2), 109-110
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English

AB A robust, membrane-mimetic layer of mono-acrylated lipid copolymer was prepd. on a poly(L-lysine) (PLL) and alginate hydrogel polyelectrolyte multilayer on a glass slide substrate. The polyacrylate is an amphiphilic terpolymer of hydroxyethyl acrylate, p-sodium styrenesulfonate, and N,N-octadecylcarbamoyl-propionic acid, having flexible spacer and anionic substituents that anchor onto the cationic substrate. After the lipid vesicle is fused to the hydrogel, the lipid assembly is stabilized via in-situ photopolymerization. Contact angle measurements confirmed the formation and stability of the film, and ellipsometry, IR spectra, and confocal microscopy data were also obtained. The supported lipid membrane is stable for at least four weeks in water. Fluorescent dye modified surfaces were prepd. using vesicle solns. of 1-palmitoyl-2-[12-(acryloyloxy)dodecanoyl]-sn-glycero-3-phosphorylcholine [mono-AcrylPC] and mono-AcrylPE-FITC on the polyacrylate charged multilayers on a silicon wafer instead of glass. The alkylated charged multilayer was incubated in the vesicle soln. followed by photopolymerization using Eosin Y/triethanolamine as co-initiator. The resultant mixed lipid-surface was imaged using confocal microscopy. The formation of the lipid film was confirmed by fluorescence of the surface. The membrane assemblies are of interest for use in characterization of protein function and cell-cell interactions.

IT 373643-45-9P

RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation) (dye-lipid fluorescent layer; prepn. of acrylate-lipid terpolymer on polylysine/alginate polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymerization to obtain mixed lipid membrane-mimetic layer)

RN 373643-45-9 CAPLUS

CN 3,5,8,21-Tetraoxa-4-phosphatetracos-23-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9,22-dioxo-7-[[[1-oxohexadecyl]oxy]methyl]-, inner salt, 4-oxide, polymer with (2R)-10-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]-5-hydroxy-5-oxido-2-[[1-oxo-12-[(1-oxo-2-propenyl)oxy]dodecyl]oxy]-10-thioxo-4,6-dioxo-9-aza-5-phosphadec-1-yl]hexadecanoate (9CI) (CA INDEX NAME)

CM 1

CRN 370102-90-2

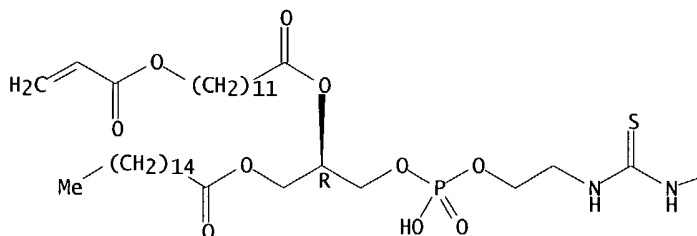
CMF C57 H79 N2 O15 P S

Absolute stereochemistry.

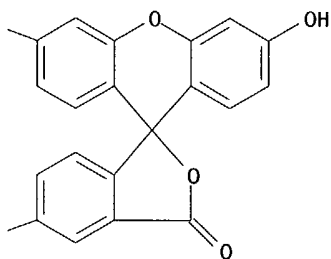
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PAGE 1-A

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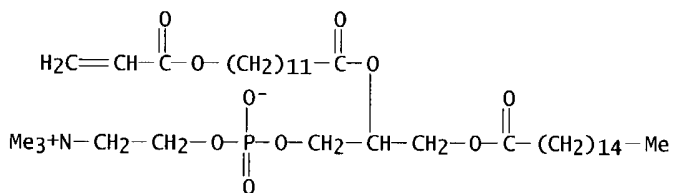
PAGE 1-B



CM 2

CRN 146059-03-2

CMF C39 H74 N 010 P



IT 370102-90-2

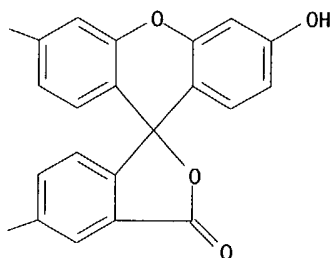
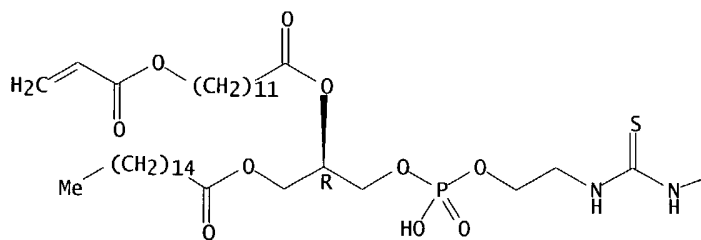
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(monomer; prepn. of acrylate-lipid terpolymer on polylysine/alginate polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic layer)

RN 370102-90-2 CAPLUS

CN Hexadecanoic acid, (2R)-10-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]-5-hydroxy-5-oxido-2-[[1-oxo-12-[(1-oxo-2-propenyl)oxy]dodecyl]oxy]-10-thioxo-4,6-dioxo-9-aza-5-phosphadec-1-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 37, 63
- ST acrylate terpolymer prepn polylysine alginate multilayer polyelectrolyte;
photopolymn lipid acrylate membrane polyelectrolyte multilayer;
phospholipid photopolymerizable vesicle alkyl multilayer silicon wafer
- IT Phospholipids, preparation
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(bilayers; prepn. of acrylate-lipid terpolymer on polylysine/alginate
polyelectrolyte multilayer and fusion of dye-labeled phospholipid
vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic
layer)
- IT Polymerization
(photopolymn.; prepn. of acrylate-lipid terpolymer on
polylysine/alginate polyelectrolyte multilayer and fusion of
dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain
mixed lipid membrane-mimetic layer)
- IT Contact angle
Fluorescence
Glass substrates
Vesicles (colloidal)
(prepn. of acrylate-lipid terpolymer on polylysine/alginate
polyelectrolyte multilayer and fusion of dye-labeled phospholipid
vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic
layer)
- IT **373643-45-9P**
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(dye-lipid fluorescent layer; prepn. of acrylate-lipid terpolymer on
polylysine/alginate polyelectrolyte multilayer and fusion of
dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain
mixed lipid membrane-mimetic layer)
- IT **146059-03-2 370102-90-2**
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC
(Process); RACT (Reactant or reagent)
(monomer; prepn. of acrylate-lipid terpolymer on polylysine/alginate

polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic layer)

- IT 373643-43-7P, N,N-Dioctadecylcarbamoylpropionic acid-2-hydroxyethyl acrylate-sodium p-styrenesulfonate copolymer
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (photocrosslinked; prepn. of acrylate-lipid terpolymer on polylysine/alginate polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic layer)
- IT 102-71-6, Triethanolamine, uses
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator with Eosin Y; prepn. of acrylate-lipid terpolymer on polylysine/alginate polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic layer)
- IT 17372-87-1, Eosin Y
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator with triethanolamine; prepn. of acrylate-lipid terpolymer on polylysine/alginate polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic layer)
- IT 25104-18-1P, Poly(L-lysine)
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (prepn. of acrylate-lipid terpolymer on polylysine/alginate polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic layer)
- IT 9005-32-7, Alginic acid 38000-06-5, Poly(L-lysine)
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (substrate multilayer; prepn. of acrylate-lipid terpolymer on polylysine/alginate polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic layer)
- IT 7440-21-3, Silicon, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (substrate; prepn. of acrylate-lipid terpolymer on polylysine/alginate polyelectrolyte multilayer and fusion of dye-labeled phospholipid vesicle and in-situ photopolymn. to obtain mixed lipid membrane-mimetic layer)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:627642 CAPLUS

DOCUMENT NUMBER: 135:354916

TITLE: Synthesis and terminal functionalization of a polymerizable phosphatidylethanolamine

AUTHOR(S): Sun, Xue-Long; Liu, Hongbo; Orban, Janine M.; Sun, Lijun; Chaikof, Elliot L.

CORPORATE SOURCE: Laboratory for Biomolecular Materials Research
 Department of Surgery and Bioengineering, Emory University School of Medicine, Atlanta, GA, 30322, USA

SOURCE: Bioconjugate Chemistry (2001), 12(5), 673-677
 CODEN: BCCHES; ISSN: 1043-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We report the design and synthesis of bifunctional phospholipid conjugates, which contain a polymerizable acrylate group and a terminal linker, such as biotin or N-(epsilon-maleimidocaproyl) to facilitate bioconjugation reactions. The lipid conjugate can be used to generate a multifunctional substrate-supported phospholipid film that is further stabilized via in-situ photocopolymerization.

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IT 370102-90-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

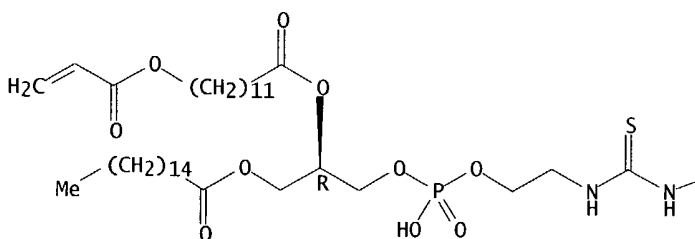
RN 370102-90-2 CAPLUS

CN Hexadecanoic acid, (2R)-10-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-
1(3H),9'-[9H]xanthen]-5-yl)amino]-5-hydroxy-5-oxido-2-[[1-oxo-12-[(1-oxo-2-
propenyl)oxy]dodecyl]oxy]-10-thioxo-4,6-dioxo-9-aza-5-phosphadec-1-yl
ester (9CI) (CA INDEX NAME)

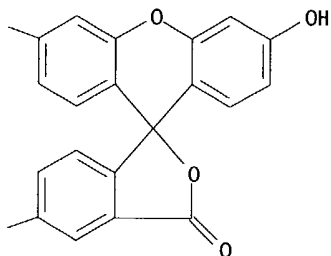
Absolute stereochemistry.

PAGE 1-A

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PAGE 1-B



CC 9-16 (Biochemical Methods)

Section cross-reference(s): 23, 37, 63

ST phosphatidylethanolamine polymerizable membrane prepn

IT Spheres

(beads; prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

IT Membranes, nonbiological

(films; prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

IT Polymerization

(photopolymer.; prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

IT 9005-32-7, Alginic acid

RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)

(beads; prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

IT 149918-67-2

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

IT 370102-89-9P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP

Heindl

(Preparation); RACT (Reactant or reagent)
(prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

IT 370102-90-2P 370102-91-3P 370102-92-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

IT 57-10-3, Palmitic acid, reactions 27072-45-3, FITC 32159-15-2
35013-72-0 55750-63-5 99743-69-8 109786-74-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

IT 139100-83-7P 370102-86-6P 370102-87-7P 370102-88-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and terminal functionalization of polymerizable
phosphatidylethanolamine)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:993332 CAPLUS

DOCUMENT NUMBER: 124:105422

TITLE: Analysis of .gamma.-(Cholesteryloxy)butyric Acid in
Biologic Samples by Derivatization with
5-(Bromomethyl)fluorescein Followed by
High-Performance Liquid Chromatography with
Laser-Induced Fluorescence Detection

AUTHOR(S): Mukherjee, Partha S.; Karnes, H. Thomas

CORPORATE SOURCE: Medical College of Virginia, Virginia Commonwealth
University, Richmond, VA, 23298-0533, USA

SOURCE: Analytical Chemistry (1996), 68(2), 327-32
CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

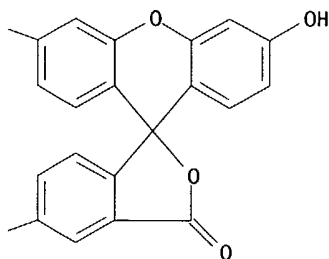
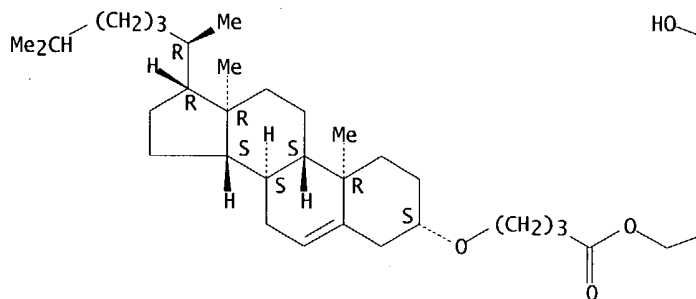
AB This report describes the first application of 5-(bromomethyl)fluorescein
(5-BMF) for the quantitation of a pharmaceutically relevant
carboxyl-contg. analyte in a biol. matrix. An anal. method for
quantitation of .gamma.-(cholesteryloxy)butyric acid (CBA), a relatively
new antitumor agent, in different tissues of Sprague-Dawley rats was
developed. 5-BMF was employed to form a stable and spectrally
well-characterized conjugate of CBA. The derivatization yield was
maximized by optimizing several reaction variables. The conjugate was
sepd. by HPLC and quantitated by a lab.-constructed argon ion laser
fluorometer. The detection limits for CBA were 4.6 .times. 10⁻⁹ and 6.34
.times. 10⁻¹¹M by conventional and laser-induced fluorescence (LIF), resp.
A derivatization limit of detection of 1.85 .times. 10⁻⁹M was achieved by
LIF for the conjugate. The anal. method was useful for quantitation of
CBA in various tissues in the picogram per mL range.

IT 172850-25-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(cholesteryloxybutyric acid detn. by derivatization with
bromomethylfluorescein and HPLC/fluorometry)

RN 172850-25-8 CAPLUS

CN Butanoic acid, 4-[[[3.beta.)-cholest-5-en-3-yl]oxy]-, (3',6'-dihydroxy-3-
oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)methyl ester (9CI) (CA
INDEX NAME)

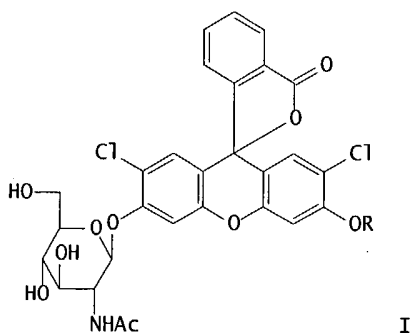
Absolute stereochemistry.



CC	1-1 (Pharmacology)
ST	tissue cholesteryloxybutyrate detn bromomethylfluorescein derivatization; HPLC cholesteryloxybutyrate detn tissue; laser induced fluorescence detection cholesteryloxybutyrate; liq chromatog cholesteryloxybutyrate detn
IT	Animal tissue (cholesteryloxybutyric acid detn. by derivatization with bromomethylfluorescein and HPLC/fluorometry)
IT	156908-81-5 RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses) (cholesteryloxybutyric acid detn. by derivatization with bromomethylfluorescein and HPLC/fluorometry)
IT	148942-72-7, 5-(Bromomethyl)fluorescein RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (cholesteryloxybutyric acid detn. by derivatization with bromomethylfluorescein and HPLC/fluorometry)
IT	172850-25-8P RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (cholesteryloxybutyric acid detn. by derivatization with bromomethylfluorescein and HPLC/fluorometry)

L29 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:218340 CAPLUS
DOCUMENT NUMBER: 120:218340
TITLE: Glycosides having chromophores as substrates for
sensitive enzyme analysis. V. Synthesis of
6'-O-substituted 2',7'-dichlorofluorescein
N-acetyl-.beta.-D-glucosaminides as substrates for the
rate-assay of N-acetyl-.beta.-D-glucosaminidase
AUTHOR(S): Kasai, Kouichi; Okada, Kiyoshi; Yamaji, Nobuyuki
CORPORATE SOURCE: Res. Dev. Div., Kikkoman Corp., Noda, 278, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1993), 41(9),
1513-20

DOCUMENT TYPE: CODEN: CPBTAL; ISSN: 0009-2363
 LANGUAGE: Journal
 GI English



AB Sixteen novel 6'-O-substituted 2',7'-dichlorofluorescein N-acetyl-.beta.-D-glucosaminides, e.g. I [R = CH₂CO₂Na, CH(CO₂Na)₂, CH₂CH₂R₁, R₁ = OH, NH₂, NMe₂, SO₃Na], were synthesized from 2',7'-dichlorofluorescein. These N-acetyl-.beta.-D-glucosaminides were examd. to evaluate their soly. under the weakly acidic rate-assay conditions (pH 5.0) and their kinetic parameters with N-acetyl-.beta.-D-glucosaminidase.

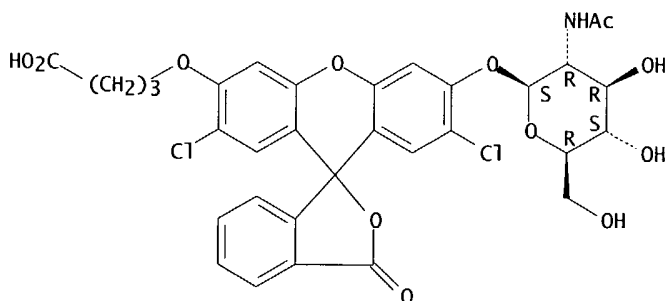
IT 153753-49-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as substrate for the rate-assay of N-acetyl-.beta.-D-glucosaminidase)

RN 153753-49-2 CAPLUS

CN Butanoic acid, 4-[[6'-[[2-(acetylamino)-2-deoxy-.beta.-D-glucopyranosyl]oxy]-2',7'-dichloro-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● Na

CC 33-7 (Carbohydrates)

Section cross-reference(s): 7

ST chlorofluorescein glucosaminide prepn hydrolysis glucosaminidase;
 glycoside chromophore glucosaminidase rate assay

IT Glycosides

RL: SPN (Synthetic preparation); PREP (Preparation)
 (chlorofluorescein glucosaminides, prepn. of, as substrates for the

- rate-assay of N-acetyl-.beta.-D-glucosaminidase)
- IT Hydrolysis
(glucosaminidase, of chlorofluorescein glucosaminides)
- IT 3068-34-6P 7790-94-5P, Chlorosulfonic acid 148806-88-6P 153753-60-7P
153753-61-8P 153753-62-9P 153753-63-0P 153753-64-1P,
3'-O-Carboxymethyl-2',7'-dichlorofluorescein
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and reaction of, in prepn. of chlorofluorescein glucosaminides
as substrate for the rate-assay of N-acetyl-.beta.-D-glucosaminidase)
- IT 9012-33-3P, N-Acetyl-.beta.-D-glucosaminidase
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of chlorofluorescein glucosaminides s substrate for the
rate-assay of)
- IT 151230-94-3P 151230-95-4P 151230-96-5P 151230-97-6P
153753-49-2P 153753-50-5P 153753-51-6P 153753-52-7P
153753-53-8P 153753-54-9P 153753-55-0P 153753-56-1P 153753-57-2P
153753-58-3P 153753-59-4P 153831-52-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as substrate for the rate-assay of N-acetyl-.beta.-D-
glucosaminidase)
- IT 76-54-0, 2',7'-Dichlorofluorescein 105-36-2, Ethyl bromoacetate
540-51-2, 2-Bromoethanol 3587-60-8 4584-46-7 153831-53-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of chlorofluorescein glucosaminides as
substrate for the rate-assay of N-acetyl-.beta.-D-glucosaminidase)

L29 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:49284 CAPLUS
DOCUMENT NUMBER: 120:49284
TITLE: Photoactivable fluorophores for the measurement of
fluence in turbid media
AUTHOR(S): Lilge, L.; Flotte, T. J.; Kochevar, I. E.; Jacques, S.
J.; Hillenkamp, F.
CORPORATE SOURCE: Inst. Med. Phys., Westfael. Wilhelms Univ., Muenster,
Germany
SOURCE: Photochemistry and Photobiology (1993), 58(1), 37-44
CODEN: PHCBAP; ISSN: 0031-8655
DOCUMENT TYPE: Journal
LANGUAGE: English

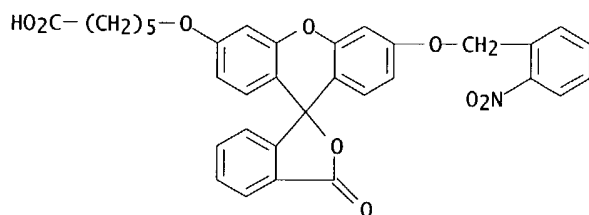
AB Knowledge of the fluence distribution in biol. tissue is essential for
applications of lasers and light in medicine. A method using a
photoactivable fluorophore as a chem. actinometer is presented to
investigate the fluence (J/cm²) distribution in tissue-simulating
phantoms. Such a chem. actinometer provides high spatial resoln.
(.ltoreq.20 .mu.m) while minimizing the disturbance of the fluence
distribution. The actinometer substance, nonfluorescent in its native
state, is incorporated into an acrylamide gel. Upon absorption of 351 nm
radiation (.lambda.act), the actinometer substance becomes a fluorophore,
which is excited at .lambda.ex .ltoreq. 485 nm. Thus the spatial
distribution of the emitted fluorescence (.lambda.em .gtoreq. 515 nm) in
the actinometer represents the fluence distribution of the activating
radiation. Using histol. techniques, 20 .mu.m sections are cut from
gel-like optical phantoms contg. the actinometric substance. The
fluorescence intensity in the section is recorded under a std.
fluorescence microscope equipped with a sensitive video camera. To
stimulate different biol. tissues, the scattering and absorption
properties of the gel phantoms are varied over a wide range. The exptl.
obtained fluence distributions are compared with theor. models of light
distribution in turbid media.

IT 111742-80-4 152238-54-5
RL: ANST (Analytical study)
(in fluence detn. in turbid media by fluorometry, biol. tissue in
relation to)

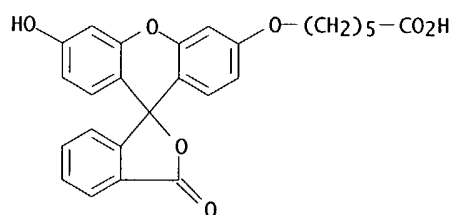
RN 111742-80-4 CAPLUS

CN Hexanoic acid, 6-[[6'-[(2-nitrophenyl)methoxy]-3-oxospiro[isobenzofuran-
1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)

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RN 152238-54-5 CAPLUS
CN Hexanoic acid, 6-[(6'-hydroxy-3-oxospiro[isobenzofuran-1(3H),9']-9H]xanthen-3-yl)oxy]- (9CI) (CA INDEX NAME)



CC 9-5 (Biochemical Methods)
ST fluorophore actinometer fluence detn turbid medium; biol tissue fluence
detn fluorophore
IT Fluorometry
(fluence detn. in turbid media by, with photoactivable fluorophores,
biol. tissue in relation to)
IT Animal tissue
(fluence detn. in turbid media with photoactivable fluorophores in
relation to)
IT Fluorescent substances
(photoactivable, as actinometer for fluence detn. in turbid media)
IT 111742-80-4 152238-54-5
RL: ANST (Analytical study)
(in fluence detn. in turbid media by fluorometry, biol. tissue in
relation to)

L29 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1988:23311 CAPLUS

DOCUMENT NUMBER: 108:23311

TITLE: Photoactivable fluorophores. 3. Synthesis and
photoactivation of fluorogenic difunctionalized
fluoresceins

AUTHOR(S): Krafft, Grant A.; Sutton, W. Randall; Cummings,
Richard T.

CORPORATE SOURCE: Dep. Chem., Syracuse Univ., Syracuse, NY, 13244-1200,
USA

SOURCE: Journal of the American Chemical Society (1988),
110(1), 301-3

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 108:23311

AB The synthesis and photoactivation of 0,0'-difunctionalized fluorescein
(I)-based photoactivable fluorophores (PAF) are described. Photoactivable
fluorophores are specifically designed to be tracer mols. in studies of
mol. transport and diffusion. I and 5-aminofluorescein are converted to
differentially functionalized, non-fluorescent diethers in which one of
the phenolic ethers consists of a photocleavable group. Photoactivation
converts the non-fluorescent diethers to I monoethers that tautomerize to
the highly fluorescent xanthen-3-one isomer. The synthesis of PAF mols.

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with polar functionality and covalent linking functionality is also described, and quantum yields for the photocleavage reactions of substituted o-nitrobenzyl and phenacyl ethers of I and haloacetamidofluoresceins are reported.

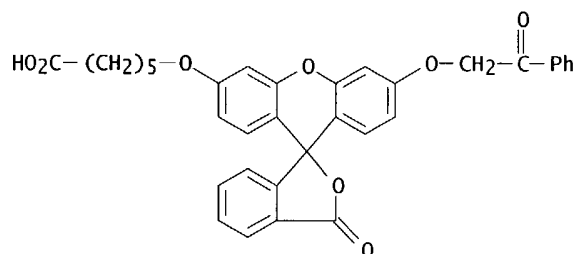
IT 111742-61-1P 111742-65-5P 111742-74-6P

111742-76-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and photoactivation of)

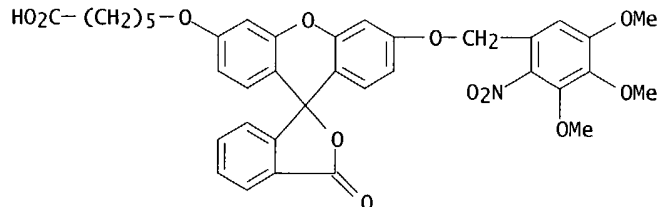
RN 111742-61-1 CAPLUS

CN Hexanoic acid, 6-[[3-oxo-6'-(2-oxo-2-phenylethoxy)spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)



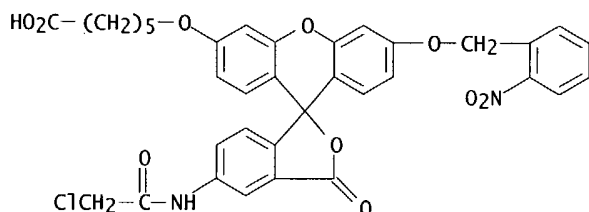
RN 111742-65-5 CAPLUS

CN Hexanoic acid, 6-[[3-oxo-6'-[(3,4,5-trimethoxy-2-nitrophenyl)methoxy]spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)



RN 111742-74-6 CAPLUS

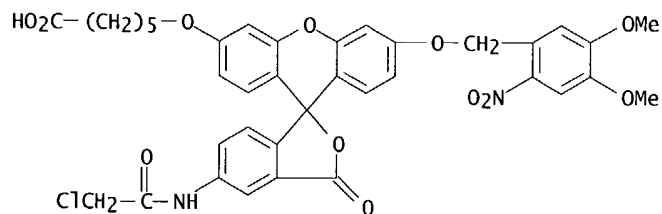
CN Hexanoic acid, 6-[[5-[(chloroacetyl)amino]-6'-[(2-nitrophenyl)methoxy]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)



RN 111742-76-8 CAPLUS

CN Hexanoic acid, 6-[[5-[(chloroacetyl)amino]-6'-[(4,5-dimethoxy-2-nitrophenyl)methoxy]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)

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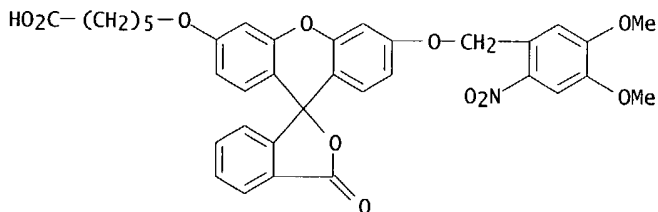


IT 111742-67-7P 111742-68-8P 111742-75-7P
111742-77-9P 111742-78-0P 111742-79-1P
111742-80-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

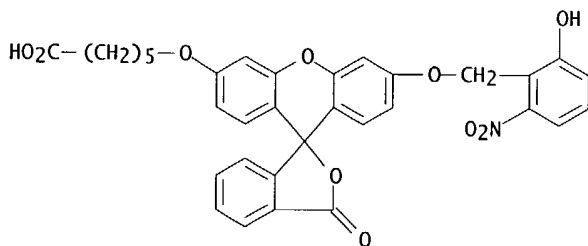
RN 111742-67-7 CAPLUS

CN Hexanoic acid, 6-[[6'-[(4,5-dimethoxy-2-nitrophenyl)methoxy]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)



RN 111742-68-8 CAPLUS

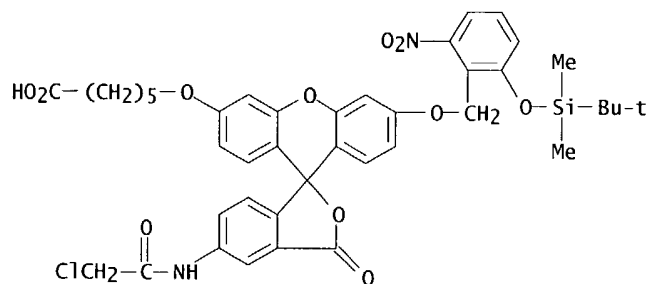
CN Hexanoic acid, 6-[[6'-[(2-hydroxy-6-nitrophenyl)methoxy]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)



RN 111742-75-7 CAPLUS

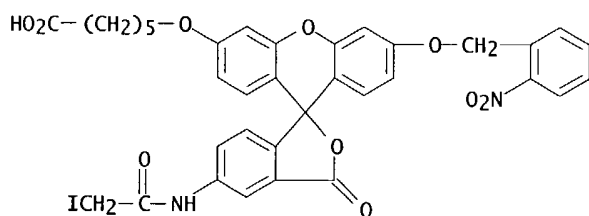
CN Hexanoic acid, 6-[[5-[(chloroacetyl)amino]-6'-[[2-[[[(1,1-dimethylethyl)dimethylsilyl]oxy]-6-nitrophenyl]methoxy]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)

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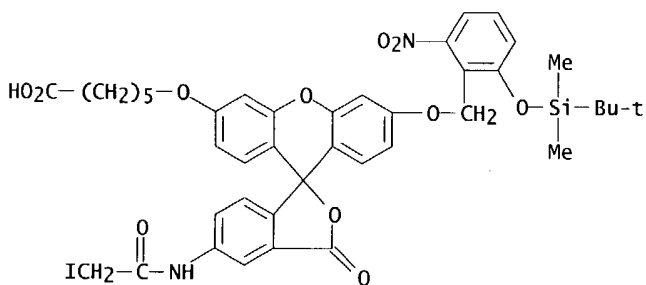
RN 111742-77-9 CAPLUS

CN Hexanoic acid, 6-[[5-[(2-nitrophenyl)methoxy]-6'-[(2-nitrophenyl)methoxy]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)



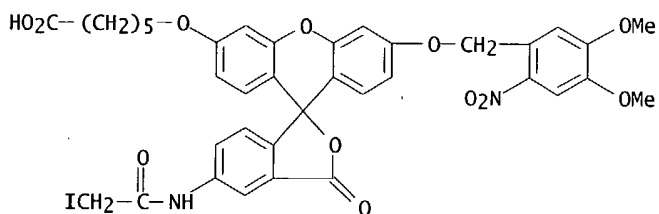
RN 111742-78-0 CAPLUS

CN Hexanoic acid, 6-[[6'-[[2-[(1,1-dimethylethyl)dimethylsilyl]oxy]-6-nitrophenyl]methoxy]-5-[(iodoacetyl)amino]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)



RN 111742-79-1 CAPLUS

CN Hexanoic acid, 6-[[6'-[[4,5-dimethoxy-2-nitrophenyl]methoxy]-5-[(iodoacetyl)amino]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)

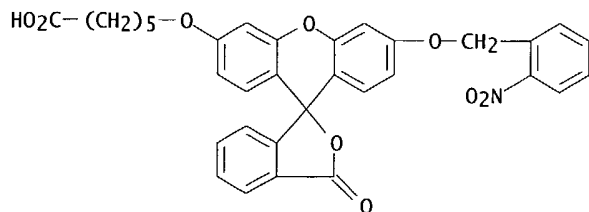


RN 111742-80-4 CAPLUS

CN Hexanoic acid, 6-[[6'-[[2-nitrophenyl]methoxy]-3-oxospiro[isobenzofuran-

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1(3H),9'-[9H]xanthen]-3'-yl]oxy]- (9CI) (CA INDEX NAME)



- CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
- ST fluorescein photoactivation; fluorophore photoactivation
- IT Dyes
(fluorescein derivs., synthesis and photoactivation of)
- IT 77295-58-0 103483-32-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification by, of aminofluorescein)
- IT 4636-16-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification by, of fluorescein)
- IT 3958-60-9, o-Nitrobenzyl bromide 53413-67-5 103387-07-1 111742-62-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification by, of fluorescein deriv.)
- IT 2321-07-5, Fluorescein 3326-34-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification of)
- IT 111742-60-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification of, by iodoheptane deriv.)
- IT 111742-70-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and benzylation of)
- IT 111742-71-3P 111742-72-4P 111742-73-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and desilylation of)
- IT 111742-61-1P 111742-65-5P 111742-74-6P
111742-76-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and photoactivation of)
- IT 111742-63-3P 111742-64-4P 111742-66-6P 111742-67-7P
111742-68-8P 111742-69-9P 111742-75-7P
111742-77-9P 111742-78-0P 111742-79-1P
111742-80-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
- IT 79-04-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminofluorescein)

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L103 42468 SEA FILE=CAPLUS ABB=ON PLU=ON (DNA OR NUCLEIC)(10A)(CONJUGAT?
OR LABEL? OR LINK?)
L105 823 SEA FILE=CAPLUS ABB=ON PLU=ON L103 (10A) (?AMID?)
L106 243 SEA FILE=CAPLUS ABB=ON PLU=ON L105 AND (CHROMO? OR FLUORO?
OR FLUORE?)
L107 167 SEA FILE=CAPLUS ABB=ON PLU=ON L106 AND PY<2002
L129 66 SEA FILE=CAPLUS ABB=ON PLU=ON L107 AND 3
L130 1 SEA FILE=CAPLUS ABB=ON PLU=ON L129 AND (SPECIFIC CHEMICAL
LABELING)/TI
L131 6 SEA FILE=REGISTRY ABB=ON PLU=ON (31556-28-2/BI OR 144-48-9/BI
OR 4145-46-4/BI OR 63296-31-1/BI OR 63368-54-7/BI OR 69414-31-
9/BI)
L132 1 SEA FILE=CAPLUS ABB=ON PLU=ON L130 AND L131

=> d ibib abs hitstr

L132 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1980:72269 CAPLUS

DOCUMENT NUMBER: 92:72269

TITLE: **Specific chemical labeling**
of DNA fragments

AUTHOR(S): Eshaghpour, Hilbert; Soell, Dieter; Crothers, Donald
M.

CORPORATE SOURCE: Dep. Chem., Yale Univ., New Haven, CT, 06520, USA

SOURCE: Nucleic Acids Research (1979), 7(6), 1485-95

CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A method for the specific chem. labeling of DNA fragments at their
3'-termini is described. The procedure includes enzymic addn. of
4-thiouridine, followed by reaction in mild nondenaturing conditions with
.alpha.-haloacetamido derivs. of several chem. labels. The attached
reporter mol. can be removed by extended treatment with
.beta.-mercaptoethanol. Among the potential applications of this labeling
method is the study of specific protein-DNA interactions in soln.

IT 144-48-9 63296-31-1 63368-54-7

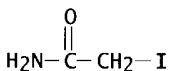
69414-31-9

RL: ANST (Analytical study)

(DNA fragment labeling with)

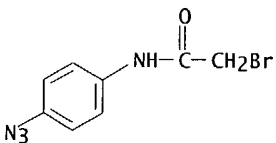
RN 144-48-9 CAPLUS

CN Acetamide, 2-iodo- (8CI, 9CI) (CA INDEX NAME)



RN 63296-31-1 CAPLUS

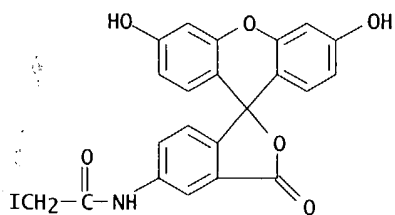
CN Acetamide, N-(4-azidophenyl)-2-bromo- (9CI) (CA INDEX NAME)



RN 63368-54-7 CAPLUS

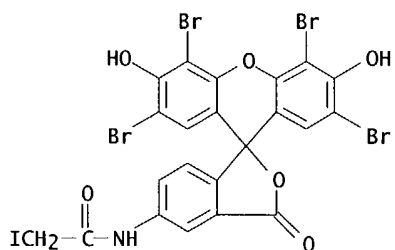
CN Acetamide, N-(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-
[9H]xanthen]-5-yl)-2-iodo- (9CI) (CA INDEX NAME)

Heindl



RN 69414-31-9 CAPLUS

CN Acetamide, 2-iodo-N-(2',4',5',7'-tetrabromo-3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)- (9CI) (CA INDEX NAME)



IT 4145-46-4D, iodoacetamide adduct 31556-28-2D,

iodoacetamide adduct

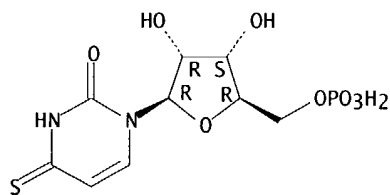
RL: ANST (Analytical study)

(electrophoresis of, DNA labeling in relation to)

RN 4145-46-4 CAPLUS

CN 5'-Uridylic acid, 4-thio- (9CI) (CA INDEX NAME)

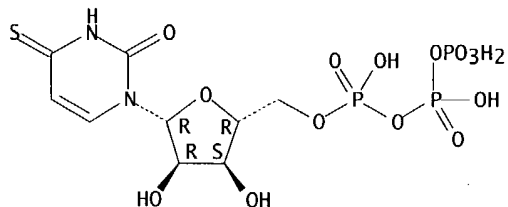
Absolute stereochemistry.



RN 31556-28-2 CAPLUS

CN Uridine 5'-(tetrahydrogen triphosphate), 4-thio- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 31556-28-2P

RL: PREP (Preparation)

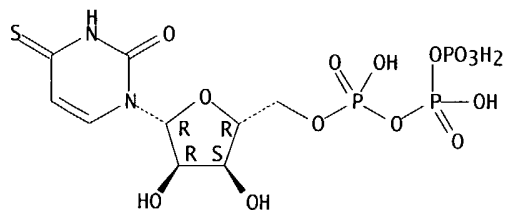
(prepn. of, and enzymic reaction with DNA)

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RN 31556-28-2 CAPLUS

CN Uridine 5'-(tetrahydrogen triphosphate), 4-thio- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d ind

L132 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

CC 9-13 (Biochemical Methods)

ST DNA fragment chem labeling; **fluorescent** labeling DNA

IT Nucleotides, compounds

RL: ANST (Analytical study)

(electrophoresis of, DNA labeling in relation to)

IT Deoxyribonucleic acids

RL: ANST (Analytical study)

(labeling of fragments of, at 3'-termini, chem. and

fluorescent compds. for)

IT **144-48-9 63296-31-1 63368-54-7**

69414-31-9

RL: ANST (Analytical study)

(DNA fragment labeling with)

IT **4145-46-4D, iodoacetamide** adduct **31556-28-2D,**

iodoacetamide adduct

RL: ANST (Analytical study)

(electrophoresis of, **DNA labeling** in relation to)

IT **31556-28-2P**

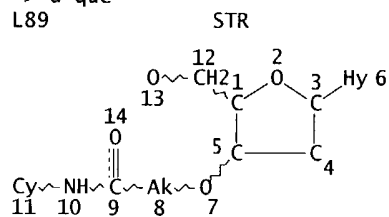
RL: PREP (Preparation)

(prepn. of, and enzymic reaction with DNA)

=>

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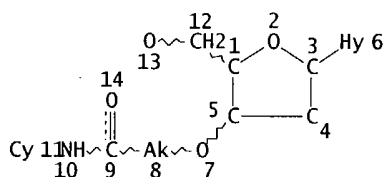
=> d que
L89



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M2 N AT 6

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE
L92 STR



NODE ATTRIBUTES:
CONNECT IS E2 RC AT 4
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M4 C M2 N AT 6

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 14

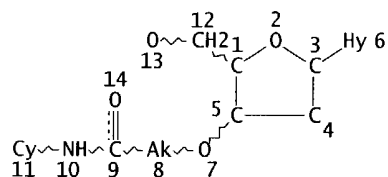
STEREO ATTRIBUTES: NONE
L94 100 SEA FILE=REGISTRY SSS FUL L92
L96 1 SEA FILE=REGISTRY SUB=L94 SSS FUL L89
L97 1 SEA FILE=CAPLUS ABB=ON PLU=ON L96

=>

Heindl

=> d que
L89

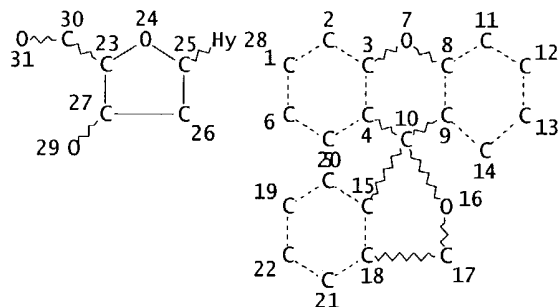
STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M2 N AT 6

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE
L99 STR



NODE ATTRIBUTES:
CONNECT IS E2 RC AT 29
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M2 N AT 28

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE
L101 178 SEA FILE=REGISTRY SSS FUL L99
L102 0 SEA FILE=REGISTRY SUB=L101 SSS FUL L89

Heindl

=> d que

L1 32 SEA FILE=CAPLUS ABB=ON PLU=ON HEINDL D7/AU
 L2 141 SEA FILE=CAPLUS ABB=ON PLU=ON SANGER G7/AU
 L3 12 SEA FILE=CAPLUS ABB=ON PLU=ON MAERZ H7/AU
 L4 304 SEA FILE=CAPLUS ABB=ON PLU=ON VON DER ELTZ7/AU
 L5 483 SEA FILE=CAPLUS ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4)
 L6 28 SEA FILE=CAPLUS ABB=ON PLU=ON L5 AND NUCLEIC
 L7 13 SEA FILE=CAPLUS ABB=ON PLU=ON L6 AND LABEL?
 L8 2 SEA FILE=CAPLUS ABB=ON PLU=ON L7 AND REAGENT/TI
 L9 19 SEA FILE=REGISTRY ABB=ON PLU=ON (108-55-4/BI OR 150-25-4/BI
 OR 154928-39-9/BI OR 154928-40-2/BI OR 154928-41-3/BI OR
 2321-07-5/BI OR 321858-92-8/BI OR 3282-30-2/BI OR 3318-08-9/BI
 OR 403656-56-4/BI OR 403656-57-5/BI OR 403656-58-6/BI OR
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 -2/BI OR 40615-36-9/BI OR 534-03-2/BI OR 82911-69-1/BI)
 L10 2 SEA FILE=CAPLUS ABB=ON PLU=ON L8 AND L9

=> d ibib abs hitstr ind 1-2

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:183792 CAPLUS
 DOCUMENT NUMBER: 136:232506
 TITLE: **Labeling reagents** that are stable
 during the synthesis of **labeled**
nucleic acids
 INVENTOR(S): **Heindl, Dieter**; Sagner, Gregor; **Maerz,**
Heribert; **Von der Eltz, Herbert**
 PATENT ASSIGNEE(S): Roche Diagnostics GmbH, Germany; F. Hoffmann-La Roche
 Ag
 SOURCE: Eur. Pat. Appl., 23 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1186613	A1	20020313	EP 2001-121139	20010904
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10044373	A1	20020321	DE 2000-10044373	20000908
US 2002110691	A1	20020815	US 2001-943411	20010830
JP 2003012951	A2	20030115	JP 2001-272569	20010907
PRIORITY APPLN. INFO.:			DE 2000-10044373 A	20000908

OTHER SOURCE(S): MARPAT 136:232506

AB The present invention concerns a **labeling** reagent in which the **label** is bound via an amide bond and a linker to a residue of the mol. which is essentially characterized in that the N atom of the amide bond and the **label** are linked together directly by a covalent bond. In particular, these are phosphoramidites or reactive supports suitable for **nucleic acid** synthesis, such that the **label** is not subjected to a strong electron-acceptor effect and remains stable during the oligonucleotide synthesis. Such e=mols. contain a substituent having the structural element -CH₂-CO-NH-M in which M denotes the detectable **label** such as a fluorescent dye, such as fluorescein which is optionally provided with protective groups. The covalent amide linking ensures an adequately stable coupling fo the fluorescent dye during oligonucleotide synthesis and does not influence the spectral properties of the fluorescent dye compared to derivs. coupled with a thiourea linker. The invention also concerns processes for the prodn. of such supports from suitable precursors. Synthetic protocols are provided for the synthesis of (1) glutaryl-amino-bisphaloylfluorescein NHS ester contg. 1-methoxytrityloxy-3-hydroxy-2-aminopropane and (2) N-(2-hydroxyethyl)-N-(2-dimethoxytrityloxyethyl)-5-(2-amino-ethylcarboxamido)-bisphaloylfluorescein, and their use in

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labeling during solid-phase nucleic acid synthesis.

IT 2321-07-5, Fluorescein

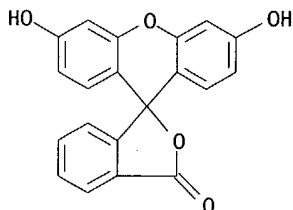
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study);

RACT (Reactant or reagent); USES (Uses)

(**labeling** reagents that are stable during the synthesis of
labeled nucleic acids)

RN 2321-07-5 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 3',6'-dihydroxy- (9CI)
(CA INDEX NAME)



IT 108-55-4, Glutaric anhydride 150-25-4, Bicine

534-03-2, Serinol 3282-30-2, Pivaloyl chloride

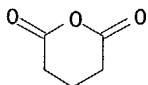
3318-08-9 40615-36-9 82911-69-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(**labeling** reagents that are stable during the synthesis of
labeled nucleic acids)

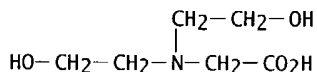
RN 108-55-4 CAPLUS

CN 2H-Pyran-2,6(3H)-dione, dihydro- (9CI) (CA INDEX NAME)



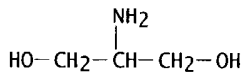
RN 150-25-4 CAPLUS

CN Glycine, N,N-bis(2-hydroxyethyl)- (6CI, 8CI, 9CI) (CA INDEX NAME)



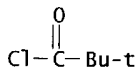
RN 534-03-2 CAPLUS

CN 1,3-Propanediol, 2-amino- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 3282-30-2 CAPLUS

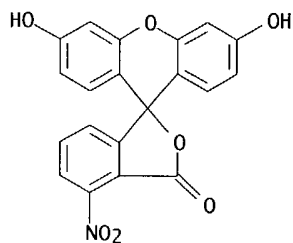
CN Propanoyl chloride, 2,2-dimethyl- (9CI) (CA INDEX NAME)



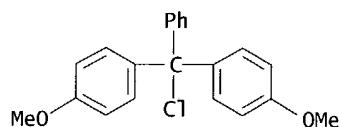
RN 3318-08-9 CAPLUS

CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 3',6'-dihydroxy-4-nitro-
(9CI) (CA INDEX NAME)

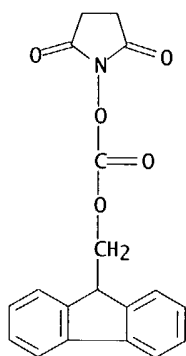
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RN 40615-36-9 CAPLUS
CN Benzene, 1,1'-(chlorophenylmethylene)bis[4-methoxy- (9CI) (CA INDEX NAME)



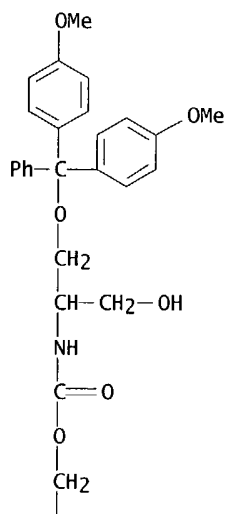
RN 82911-69-1 CAPLUS
CN 2,5-Pyrrolidinedione, 1-[[[9H-fluoren-9-ylmethoxy)carbonyl]oxy]- (9CI)
(CA INDEX NAME)



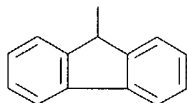
IT 154928-39-9P 154928-40-2P 154928-41-3P
321858-92-8P 403656-56-4P 403656-57-5P
403656-58-6P 403656-59-7P 403656-60-0P
403656-61-1P 403656-62-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(labeling reagents that are stable during the synthesis of
labeled nucleic acids)
RN 154928-39-9 CAPLUS
CN Carbamic acid, [2-[bis(4-methoxyphenyl)phenylmethoxy]-1-
(hydroxymethyl)ethyl]-, 9H-fluoren-9-ylmethyl ester (9CI) (CA INDEX NAME)

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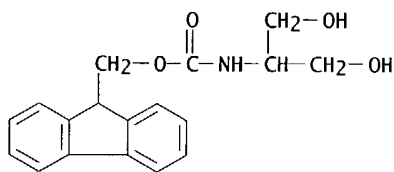
PAGE 1-A



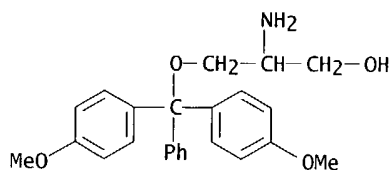
PAGE 2-A



RN 154928-40-2 CAPLUS
CN Carbamic acid, [2-hydroxy-1-(hydroxymethyl)ethyl]-, 9H-fluoren-9-ylmethyl ester (9CI) (CA INDEX NAME)

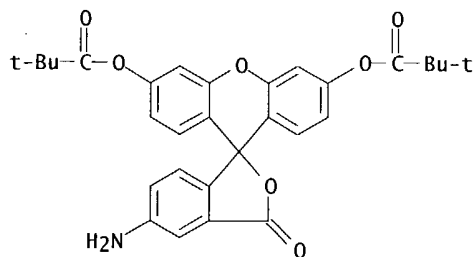


RN 154928-41-3 CAPLUS
CN 1-Propanol, 2-amino-3-[bis(4-methoxyphenyl)phenylmethoxy]- (9CI) (CA INDEX NAME)



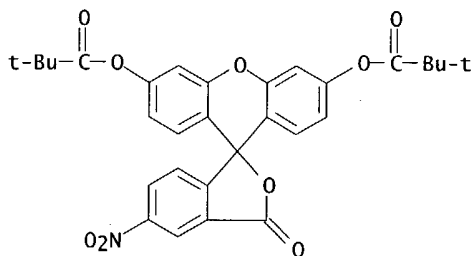
RN 321858-92-8 CAPLUS
CN Propanoic acid, 2,2-dimethyl-, 5-amino-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-3',6'-diyl ester (9CI) (CA INDEX NAME)

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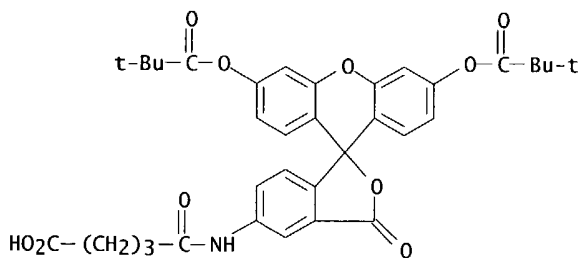
RN 403656-56-4 CAPLUS

CN Propanoic acid, 2,2-dimethyl-, 5-nitro-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-3',6'-diyl ester (9CI) (CA INDEX NAME)



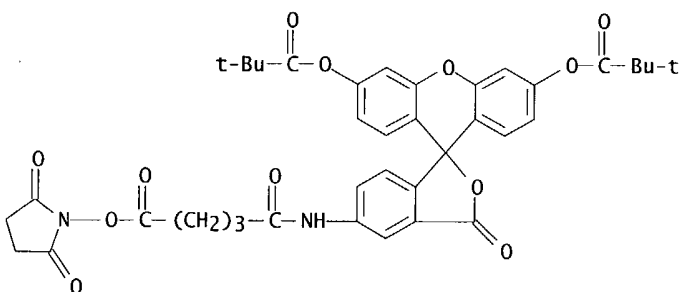
RN 403656-57-5 CAPLUS

CN Pentanoic acid, 5-[[3',6'-bis(2,2-dimethyl-1-oxopropoxy)-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-5-yl]amino]-5-oxo- (9CI) (CA INDEX NAME)



RN 403656-58-6 CAPLUS

CN Propanoic acid, 2,2-dimethyl-, 5-[[5-[(2,5-dioxo-1-pyrrolidinyl)oxy]-1,5-dioxopentyl]amino]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-3',6'-diyl ester (9CI) (CA INDEX NAME)

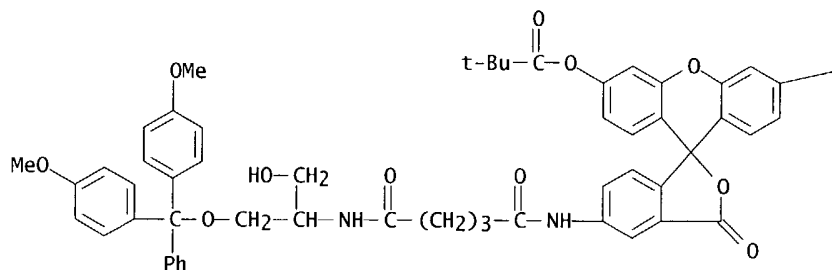


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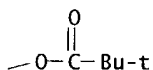
RN 403656-59-7 CAPLUS

CN Propanoic acid, 2,2-dimethyl-, 5-[[5-[[2-bis(4-methoxyphenyl)phenylmethoxy]-1-(hydroxymethyl)ethyl]amino]-1,5-dioxopentyl]amino]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-3',6'-diyl ester (9CI) (CA INDEX NAME)

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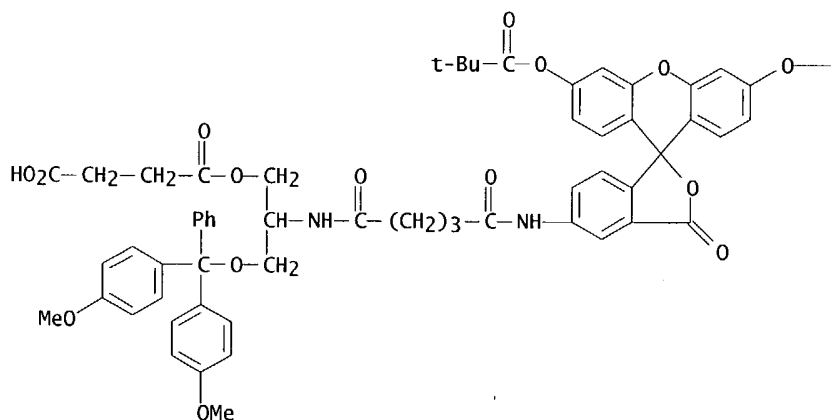
PAGE 1-B



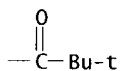
RN 403656-60-0 CAPLUS

CN Butanedioic acid, mono[2-[[5-[[3',6'-bis(2,2-dimethyl-1-oxopropoxy)-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-5-yl]amino]-1,5-dioxopentyl]amino]-3-bis(4-methoxyphenyl)phenylmethoxy]propyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



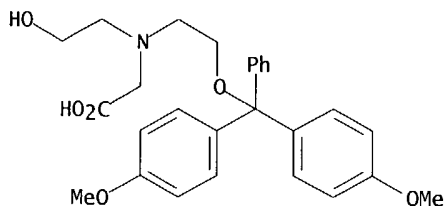
PAGE 1-B



RN 403656-61-1 CAPLUS

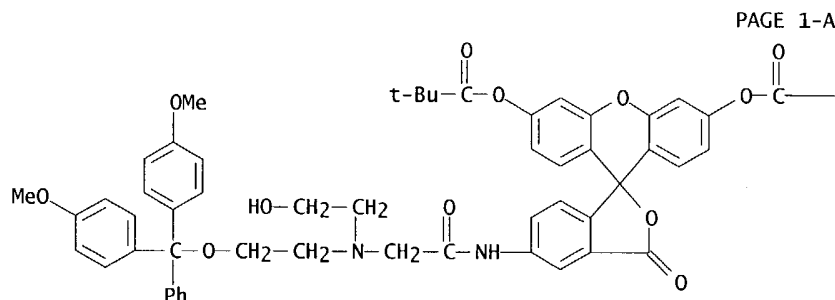
CN Glycine, N-[2-bis(4-methoxyphenyl)phenylmethoxy]ethyl]-N-(2-hydroxyethyl)- (9CI) (CA INDEX NAME)

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RN 403656-62-2 CAPLUS

CN Propanoic acid, 2,2-dimethyl-, 5-[[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl](2-hydroxyethyl)amino]acetyl]amino]-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-3',6'-diyl ester (9CI) (CA INDEX NAME)



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PAGE 1-B

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IC ICM C07H021-00

CC 33-10 (Carbohydrates)

Section cross-reference(s): 3, 9

ST fluorescent dye **labeling** reagent **nucleic acid** synthesis; oligonucleotide synthesis fluorescein **labeling** reagent

IT Glass, reactions

RL: RCT (Reactant); RGT (Reagent); RACT (Reactant or reagent) (controlled pore; **labeling** reagents that are stable during the synthesis of **labeled nucleic acids**)

IT Fluorescent dyes

Linking agents

(**labeling** reagents that are stable during the synthesis of **labeled nucleic acids**)

IT Solid phase synthesis

(oligonucleotide; **labeling** reagents that are stable during the synthesis of **labeled nucleic acids**)

IT 2321-07-5, Fluorescein

RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)

(**labeling** reagents that are stable during the synthesis of **labeled nucleic acids**)

IT 108-55-4, Glutaric anhydride 150-25-4, Bicine

534-03-2, Serinol 3282-30-2, Pivaloyl chloride

3318-08-9 40615-36-9 82911-69-1

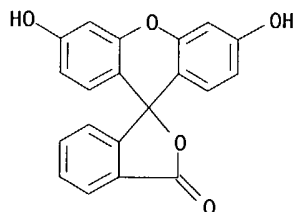
RL: RCT (Reactant); RACT (Reactant or reagent)

(**labeling** reagents that are stable during the synthesis of **labeled nucleic acids**)

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IT 154928-39-9P 154928-40-2P 154928-41-3P
321858-92-8P 403656-56-4P 403656-57-5P
403656-58-6P 403656-59-7P 403656-60-0P
403656-61-1P 403656-62-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(Labeling reagents that are stable during the synthesis of
labeled nucleic acids)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:895011 CAPLUS
DOCUMENT NUMBER: 136:380789
TITLE: Labeling hybridization probes for
LightCycler applications: A complete set of
Labeling reagents now available
AUTHOR(S): Heindl, Dieter; Huber, Andreas; Marz,
Heribert
CORPORATE SOURCE: Roche Molecular Biochemicals, Penzberg, Germany
SOURCE: Biochemica (2001), (1), 7-8
CODEN: BIOCFE; ISSN: 0946-1310
PUBLISHER: Roche Molecular Biochemicals
DOCUMENT TYPE: Journal
LANGUAGE: English
AB LightCycler-Fluorescein CPG which is a new type of CPG material specially
optimized for LightCycler applications, simplifies synthesis and purifn.
of fluorescein labeled Hybridization Probes. Together with
LightCycler-Red 640 and LightCycler-Red 705 dyes, all labeling
reagents for oligonucleotides involved in the Hybridization Probe format
are now available from Roche Mol. Biochems. The spectral characteristics
provide an optimized FRET process with a min. of crosstalk effects. The
emission spectra of Hybridization Probes labeled with these
LightCycler System dyes is shown.
IT 2321-07-5, Fluorescein
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(in LightCycler controlled pore glass; oligonucleotide detection with
fluorescent hybridization probes for LightCycler applications)
RN 2321-07-5 CAPLUS
CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 3',6'-dihydroxy- (9CI)
(CA INDEX NAME)



CC 3-1 (Biochemical Genetics)
ST oligonucleotide fluorometry LightCycler dye hybridization probe
IT Probes (nucleic acid)
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(LightCycler fluorescence probes; oligonucleotide detection with
fluorescent hybridization probes for LightCycler applications)
IT Named reagents and solutions
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(LightCycler; oligonucleotide detection with fluorescent hybridization
probes for LightCycler applications)
IT Glass, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(controlled pore, LightCycler-fluorescein CPG; oligonucleotide
detection with fluorescent hybridization probes for LightCycler)

Heindl

applications)
IT Fluorescence resonance energy transfer
Fluorometry
PCR (polymerase chain reaction)
(oligonucleotide detection with fluorescent hybridization probes for
LightCycler applications)
IT Oligonucleotides
RL: ANT (Analyte); ANST (Analytical study)
(oligonucleotide detection with fluorescent hybridization probes for
LightCycler applications)
IT 2321-07-5, Fluorescein
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(in LightCycler controlled pore glass; oligonucleotide detection with
fluorescent hybridization probes for LightCycler applications)
IT 245670-26-2, LightCycler-Red 640 251949-03-8, LightCycler-Red 705
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(oligonucleotide detection with fluorescent hybridization probes for
LightCycler applications)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT